

# Project Information

2005 Proposal Number: 0032

Proposal Title: **Farmer and Rancher Assisted Ecosystem Restoration and Watershed Stewardship Projects**

Applicant Organization Name: **Western Shasta Resource Conservation District**

Total Amount Requested: **\$350,000**

ERP Region: Sacramento Region

## Short Description

Project seeks to conduct multiple projects on-the ground within the Cow Creek Watershed. It is anticipated that the project will improve water quality, riparian health and ecosystem restoration. The stated project objectives are to (1) improve salmonid recovery in salmon-bearing streams and (2) improve current range and wetland facilities. Public outreach activities are also proposed.

## Executive Summary

A unique partnership has formed along the Sacramento River in Shasta County bringing together ranchers, federal and local agencies and a pro-active watershed group in a focused effort to increase aquatic and terrestrial habitats and improve ecological functions in the 275,000-acre Cow Creek Watershed where high water flows account for 21% of the peak discharge to the Sacramento River between Shasta Dam and Red Bluff (DWR, 1969). Three of the five Cow Creek tributaries are 303(d) listed. Fall and late-fall runs of Chinook salmon, one of several MSCS-Covered Species in the watershed, have declined from 2,800 in 1969 (DFG, 1993) to the point there are too few fish to make population estimates. Land use in this watershed is about evenly divided between agriculture, commercial forestry and urban residential, and communities in the watershed qualify as Disadvantaged Communities.



In this proposal, seven pre-qualified ranchers with holdings from 13 to 2,200 acres located from the confluence of Cow Creek with the Sacramento River into the five main tributaries, are committed to implementing the remaining 22 EQIP cost-share projects the landowners were not able to fund under the 50/50 plan to assist in recovering endangered and other at-risk species and native biotic communities, rehabilitate ecological processes, protect and restore habitats, prevent establishment of and reduce impacts from non-native invasive species, and improve or maintain water and sediment quality. The projects include tailwater recovery, dam diversions, water conveyance pipeline, irrigation management, fencing riparian areas, wetland enhancement, range planting, and brush management.

The partnership includes the Western Shasta Resource Conservation District, Cow Creek Watershed Management Group (whose board includes members from Shasta County Cattlemen and Shasta County Farm Bureau), Natural Resources Conservation Service, U. C. Davis Cooperative Extension, Tehama County Resource Conservation District (mobile irrigation lab services), and seven ranchers. The ranchers are pre-qualified EQIP participants and the projects selected for this proposal are those that were not able to be funded under the EQIP 50-50 cost share program due to financial concerns.

Under this proposal, the normal 50-50 cost-share between the landowner and NRCS, would become a 50% NRCS, 40% WSRCD ERP Grant, 10% landowner cost for the purpose of getting the more expensive projects completed so the environmental benefits can be realized, but in addition, broadening the education component through greater community outreach, ranch tours, education exhibits, and publications. In addition to funds for the 22 projects, \$75,000 is requested to be used as cost-share for further rounds of EQIP projects yet to be identified, to keep the momentum going on projects that contribute to understanding the relative effectiveness of different conservation-based farming practices and systems, and their contribution to larger restoration efforts and projects that develop and implement agriculture activities that benefit MSCS-covered species. Total match for this request is 41%.



NRCS is the lead for NEPA compliance, while WSRCD is the lead for CEQA compliance.



## **A. Project description**

### **1. Project Problem Goals and Objectives –**

**Problem:** There is a tremendous need for on-the-ground watershed projects to be completed by interested and willing landowners in the Cow Creek Watershed. Many projects are not being completed by the landowners who can not make the 50/50 match in the Natural Resource Conservation Service (NRCS) Environmental Quality Incentives Program (EQIP) cost share program because of insufficient funds. The Cow Creek watershed has no major cities and little public land so the projects that are being completed in and around riparian areas on agriculture land can have an immediate benefit to anadromous fish. Several major areas that would be addressed in this proposal include:

Water quality- has been identified as a major factor contributing to lower quality drinking water. This project will include tailwater recovery ponds that will hold exhausted irrigation water for a period of time with expectation to cool the temperature and reduce the effects of possible E. coli in the system. Watering facilities will be placed in proper locations to assist in removing livestock from fragile stream beds also reducing the effects of E. coli in the creeks. Some minor land forming will be completed to prevent large amounts of sediment to be washed in to the river.

Irrigation Efficiency- is identified for water loss that effects salmon movement and an increase in water temperatures through out the creek system. This project will include a fish screen that will prevent salmonids from entering the irrigation system. Preliminary estimates indicate that ditch water losses may be over 50% there for irrigators are requiring more water to be drawn from the creek.

Riparian Health- has been identified as a major factor in the decrease in native plants and wildlife. This project will include the previously stated water quality and irrigation efficiency including riparian fencing that will prevent livestock from overgrazing, there for offering the opportunity to use rotational grazing and time specific grazing, depending on the vegetation.

Wetlands enhancement, range planting and brush management will assist in the completion of riparian health. Proper fencing will be installed on four of the project locations to improve riparian areas along with rotational grazing. This funding will benefit rural communities by allowing ranchers to participate in water quality enhancement programs which will benefit both drinking water quality and ecosystem health throughout the Cow Creek Watershed and the Bay-Delta System.

### **Background:**

The EQIP is a voluntary cost share program that provides assistance to farmers and ranchers who face threats to soil, water, air, and related natural resources on their land. Through EQIP, the NRCS provides assistance to agricultural producers in a manner that will promote agricultural production and environmental quality as compatible goals, optimize environmental benefits, and help farmers and ranchers meet Federal, State, Tribal, and local environmental requirements.

Since EQIP began in 1997, USDA has entered into 117,625 contracts, enrolled more than 51.5 million acres into the program, and obligated nearly \$1.08 billion to help producers advance stewardship on working agricultural land. These efforts have concentrated on improving water quality, conserving both ground and surface water, reducing soil erosion from cropland and forestland, and improving rangeland. EQIP also was used to improve riparian and aquatic areas, improve air quality, and address wildlife issues. The increased funding for EQIP in the 2002 Farm Bill greatly expanded program availability for optimizing environmental benefits.



The Cow Creek Watershed Management Group (CCWMG) works within the 275,000-acre Cow Creek Watershed, a tributary of the Sacramento River in Shasta County, which contains 5 major tributaries Little Cow, Oak Run, Clover, Old Cow and South Cow Creeks, that equal a combined length of 164.4 river miles, all flowing in a southwesterly direction, forming a main stem which empties into the Sacramento River. The CCWMG is focused on improving the watershed while maintaining viable timber and agricultural industries. The CCWMG mission is “To use the resources in the Cow Creek Watershed in a way to meet the needs of today without infringing on the needs of future generations”.

The desired outcomes of actions taken by the CCWMG are to promote a healthy, diverse, resource based local economy, education of the community about the value of wise watershed management, promotion of a safer watershed, and to maintain and enhance the water quality, fisheries, wildlife and wildlife habitat of the watershed, promote the removal of invasive exotic vegetation, and to preserve the rural characteristic of the watershed. To obtain desired outcomes, the CCWMG works in partnership with the Western Shasta Resource Conservation District (WSRCD) to fund continuing watershed management activities by obtaining grants, commitments from long-term funding sources, cost sharing and individual initiatives. A key component of this is the encouragement of the community to understand, support, and become more involved in the goals and activities of the CCWMG.

Land ownership in the watershed is mostly private with a few small areas in public ownership. Land use in the watershed includes rural residential, agricultural activities, timber harvesting, livestock grazing, and hydropower production. The agriculture and livestock grazing operations in the watershed are a large part of the economy and are predominately small, multi-generational, family-owned operations. Approximately 77,500 acres are in croplands, grazing land or both, of which ~75,120 acres are currently enrolled in the Williamson Act. These operators are financially stressed currently due to conditions of the local economy. Water rights in the watershed are either appropriated or riparian. High water flows from the Cow Creek Watershed account for ~21% of the peak discharge for the Sacramento River between Shasta Dam and Red Bluff (DWR, 1969). The average annual discharge from the basin is approximately 500,400 acre-feet per year. This zone is important for the production of anadromous fish because of its location at the upper end of the Sacramento Valley.

Fall-run and late-fall-run Salmon spawn in the main stem and all five tributaries. The average run size of fall-run salmon from 1953 to 1969 was 2,800 (DFG, 1993). The estimated annual potential for fall-run has been estimated at 5,000 spawners. In recent years, however, populations have fallen off significantly to the point that there have been too few fish to make population estimates.

The WSRCD, in conjunction with the CCWMG, completed a Watershed Assessment for the Cow Creek Watershed in 2001. The Watershed Assessment identified action options to improve the Cow Creek Watershed, including conducting hydrologic studies and/or channel evaluations of primary tributaries to identify specific areas requiring restoration activities; improve water conditions for fish; determine the impact of lack of screens on diversions; create treatment zones for uptake of nutrients and pathogens resulting from livestock and irrigation runoff; identify factors contributing to elevated water temperatures, such as irrigation return flows, vegetation changes, and diversion of stream flow; rank and develop a program to assist landowners to install fish screens and ladders on existing diversions; investigate measures to increase flows in Cow Creek; and increase irrigation efficiency. The CCWMG has worked hard to get landowner participation and support for action items identified in the Watershed Assessment.



This project will conduct multiple projects that will improve water quality, riparian health and ecosystem restoration. The recently completed Watershed Management Plan for the Cow Creek Watershed identified multiple areas of concern; water quality and quantity, fisheries, botanical and wildlife resources, fire prevention and fuels management and education and outreach.

**Project Location:** The Cow Creek Watershed (center point-latitude 40.6658783, Longitude 122.026893) is located in Shasta County and is the first major eastside tributary to the Sacramento River below Keswick and Shasta Dams (**Figure 1**). The Cow Creek Ecological Management Unit is located in the North Sacramento Valley Ecological Management Zone as defined in the CALFED Ecosystem Restoration Program Plan, Volume II.

## 2. Goals and Objectives

The 22 projects initially identified plus an additional 10 to 15 projects yet to be identified support the following ERP goals:

- Recover endangered and other at-risk species and native biotic communities.
- Rehabilitate ecological processes.
- Maintain or enhance harvested species populations.
- Protect and restore habitats.
- Prevent establishment of and reduce impacts from non-native invasive species.
- Improve or maintain water and sediment quality.

The objectives of this project are: 1) Improve salmonid recovery in salmon bearing streams; install a proper fish and game designed fish screen; construct a tail water recovery pond; convert inefficient ditch water transfer system to a pipe water transfer system; install off stream watering facilities to reduce livestock disturbance in the creek. 2) Improve current range and wetland facilities; fence off riparian areas from daily grazing; plant range with desirable native and perennial grasses; brush management: gully repair.

These goals and objectives are consistent with the requirements of Prop 13 Nonpoint Source Pollution Control Program by reducing nonpoint source pollution such as: sediment, nutrients, pathogens and other pollutants from irrigated and nonirrigated agricultural lands.

The Specific Objectives For the Project Include:

1. Identify and survey current irrigation water losses on 4 properties.
2. Design and implement riparian and pasture fences to preserve native and endangered species and increase pasture production
3. Identify and survey irrigation water conditions after transfer improvements.
4. Using a Technical Advisory Committee, expertise in multiple areas of projects design and completion
5. TAC evaluation of ecosystem restoration projects and prepare summary conclusions on sectional fencing, irrigation efficiency, brush management and water quality and quantity improvements

## 3. Conceptual Model

Through decades of direct assistance to landowners applying conservation practices, continual research and analysis of available technology, as well as national and state policy, NRCS has developed a dynamic and adaptive Planning Process, (**Figure 2**). This process considers local ecological, economic and social issues related to agriculture and assures sustained use of the local resource base.



The initial step in the Planning Process is evaluating the current condition of the resources. NRCS has established standards for resource conditions that allow for sustained use of the land with respect to the soil, air, water, plants and animals. Those standards are referred to as Resource Quality Criteria. An excerpt from the NRCS Field Office Technical Guide, Section III – California Resource Quality Criteria can be seen in **(Figure 3)**. The complete set of Quality Criteria can be viewed at [www.nrcs.usda.gov/technical/efotg/](http://www.nrcs.usda.gov/technical/efotg/).

Once the resource concerns are detailed, a conservation practice can be identified to mitigate the problem. Conservation practices come from the NRCS Field Office Technical Guide ([www.nrcs.usda.gov/technical/efotg/](http://www.nrcs.usda.gov/technical/efotg/)), which is continually updated and nationally recognized. The EPA has referenced and recommended the NRCS planning model and conservation practices heavily in the publication *National Management Measures to Control Nonpoint Source Pollution from Agriculture* (<http://www.epa.gov/owow/nps/agmm/>).

Each conservation practice selected is then evaluated for the impact it will have on all resources. The degree of expected impact on the ecosystem is rated from a scale of -5 to +5. Negative values indicate the degree of negative impact, with -5 being the greatest negative impact. Positive values indicate a positive impact to the resource and +5 suggests the highest degree of positive impact. Zero is a sign of no impact. **(Table 1)** lists some of the practices proposed for this project and the degree of impact on the various resources. If a practice is planned that has a negative effect, a subsequent practice is selected to mitigate for the negative impact caused by the initial practice. For example, if the practice Brush Management is selected, soil erosion due to brush removal would cause a negative impact. However, if revegetating the area is also included, soil erosion potential is reduced.

## **Current NRCS Contract and Proposal Assistance Project Narratives**

The following are also referenced in **(Attachment A)**

### **Project # 1**

5 of the 8 practices identified as having positive impacts would be completed under this project proposal. The landowner is committed to implementing and paying the 50% cost share on 3 additional planned practices. A diversion dam will be constructed to provide control of diverted irrigation water from Cow Creek. Currently an on going permit from the DFG exists to construct yearly, an earth filled diversion dam during the irrigation season. The dam is required to be removed after irrigation season to permit full flow of the stream and for fish passage. This method works but it is not very efficient, the dam leaks and the landowners are consistently adjusting rocks to divert the permitted amount of water.

The new diversion will be a cast-in-place, concrete flashboard wall with a wing wall and pipe attachment for the diversion flow. On the water side of the diversion wall and pipe there will be a slide (gate) valve with a screen attached to the concrete. This screen will be for debris and fish and it will require periodic cleaning by landowner. This diversion project may also require a fish ladder at a later date.

This system will allow the landowner to control their irrigation water during irrigation season and it will permit full flow of the stream during the winter and spring seasons. By constructing a permanent structure for the diversion water, earth filled dams will not be required in the creek, heavy equipment will no longer be used annually in the streambed, and less sediment will be introduced to the stream through construction of the earthen dam.



In addition, one irrigation system-tailwater recovery pond will be constructed to capture unused flood irrigation water and to redistribute that water back into the flood irrigation system as a supplement.

Fences will be constructed along the banks of Cow Creek to exclude cattle and allow riparian vegetation to regenerate, reducing sedimentation and nutrient loading. Fencing off the banks will require the installation of two off-stream, livestock watering facilities. Additional projects that may be applied in the future includes, conversion of the existing open ditch to buried pipeline and installation of an associated tail-water recovery system.

### **Project # 2**

2 of the 5 practices identified as having positive impacts would be completed under this project proposal. The landowner is committed to implementing and paying the 50% cost share on 3 additional planned practices. The installation of water conveyance pipelines will be for the distribution of water to supply the planned pivot irrigation system. Additional conveyance pipeline will be for the conversion of open ditch system to buried pipe system as an effort to improve irrigation efficiency. Additional brush management will be the control and eradication of blackberries on the ranch.

### **Project # 3**

8 of the 11 practices identified as having positive impacts would be completed under this project proposal. The landowner is committed to implementing and paying the 50% cost share on 4 additional planned practices. This Plan focuses on Water Conservation, Range and Riparian Health, Erosion Control and Wildlife Habitat. Extensive gully erosion was taking place in a pasture adjacent to the stream corridor and in order to reduce the sediment load that was entering Oak Run Creek the gully was repaired and seeded this fall for a quick cover; next fall a perennial mix will be seeded to create a permanent herbaceous cover. Cross fencing will then be installed creating several fields to allow a rotational grazing plan to be implemented. Then the cattle will be distributed more uniformly across the property, which will reduce the likelihood of overgrazing and soil erosion associated with overgrazing. Livestock watering facilities, also installed this fall, will give the cattle an alternative to watering in the riparian area, again reducing the incidence of streambank erosion and sediment delivery to the waterway. Invasive Himalayan blackberries, once the dominant vegetation along the riparian corridor, have been removed and grasses have been seeded in their place. Flood irrigation is currently being shifted to sprinkler irrigation which will allow for a more uniform distribution of water. An Irrigation Water Management System will then be applied to monitor the rate, amount, and timing of irrigation.

### **Project # 4**

2 of the 4 practices identified as having positive impacts would be completed under this project proposal. The landowner is committed to implementing and paying the 50% cost share on 2 additional planned practices. The Conservation Plan covers 2200 acres of grazing land located at the confluence of Cow Creek, Bear Creek and Dry Creek at the Sacramento River. Grazing historically was a continuous operation from November till late May with little control of where the animals concentrated on the Ranch. The current EQIP Conservation Plan addresses a number of resource concerns including, gully and road erosion, timing of grazing and livestock distribution, noxious weed control and reduction of fuel loads. The needed practices include Practice 462 Precision Land Forming to reshape an actively eroding gully that provides sediment to the Sacramento River during high flows and Practice 390 Riparian Herbaceous Cover will allow replanting of native herbaceous cover a riparian area that is currently infested with non-native vegetation.

### **Project # 5**



2 of the 6 practices identified as having positive impacts would be completed under this project proposal. The landowner is committed to implementing and paying the 50% cost share on 2 additional planned practices. A number of practices are being installed to benefit wildlife habitat:

1. A new smooth-wires fence is being installed between the upland wildlife habitat and the upper end of the pasture to contain cattle and allow wildlife to cross into the riparian area along Oak Run Creek.
2. A similar fence is being installed around the riparian area for the same reasons as the fence in item one allowing wildlife clear passage through the pasture to the creek.
3. Prescribed grazing will control noxious weeds and increase forage value in the pasture which benefit wildlife as well as cattle.

#### **Project # 6**

1 of the 4 practices identified as having positive impacts would be completed under this project proposal. The landowner is committed to implementing and paying the 50% cost share on 1 additional planned practice. The Conservation Plan involves redirecting the stream channel away from an eroding bank thereby reducing siltation and future erosion to the stream while increasing aquatic habitat. Property located downstream from this parcel will also benefit by the reduced temperature and erosion associated with these streambank reparations. The installation of fencing and livestock watering facilities will keep cattle out the riparian area thereby significantly reducing their impact. Sedimentation will be reduced due to the installation of this fencing as well as the implementation of a prescribed grazing plan that will reduce grazing pressure and allow for livestock to be moved between fields as needed.

#### **Project # 7**

1 of the 3 practices identified as having positive impacts would be completed under this project proposal. The landowner is committed to implementing and paying the 50% cost share on 2 additional planned practices. A 13-acre wetland area is an integral part of this conservation plan. Macrotopographic features, or swales and ridges, will be created through excavation to increase water quality, provide flood storage, and create a more diverse wetland. The removal of unwanted vegetation, mainly cattail and blackberries, in association with the planting of native species will also increase habitat diversity. The creation of these shallow wetland features will lead to a more complex ecosystem that will have improved wildlife habitat for species that are dependant on variations in the timing, depth, and duration of water in a wetland ecosystem. The swale feature will meander through the wetland and into a deeper water feature at the southern end of the wetland area.

The number and type of projects to be implemented, beyond the currently funded NRCS contracts, is unknown. NRCS contracts are awarded based on each landowner's project ranking. Ranking tools used are developed nationally, at the state level, as well as locally. The project applicants within the Cow Creek watershed may have a better chance at gaining NRCS funding as there will be matching funds available from the ERP grant to implement select practices.

Until contracts are signed it will be difficult to narrowly define all expected ecosystem impacts, performance measures, monitoring techniques and statistical analysis. Therefore, ecosystem impacts have been generalized in Table 2 using the Conservation Practice Physical Effects worksheet. The list includes selected priority NRCS practices that may also receive ERP cost share assistance. In addition, performance indicators and monitoring techniques will be based on various technical guides, handbooks and manuals produced by NRCS.

## **4. Approach and Scope of Work**



**Methods** – Work with landowners that have current EQIP contracts to implement identified practices with additional associated monitoring. Work with additional EQIP applicants to develop NRCS Conservation Plans that address the resource needs. Evaluate applications with desired practices under the ERP grant and offer higher cost share incentive to those applicants based on conditional monitoring.

**Techniques** – Standard techniques already proven and approved by the NRCS

**Equipment** – Equipment used for project implementation will be provided by the landowner or a contractor hired by the landowner.

**Data Collection** – Data collection will be conducted by the NRCS, WSRCD, Tehama County Resource Conservation District (TCRCD) and the landowners.

**Statistical Analysis** – Statistical analysis will be performed when feasible where quantitative data exists.

**Quality Assurance Procedures** – Quality assurance will be maintained through the use of NRCS Conservation Practice Standards, Specifications and Practice Requirements. All Conservation Practices contracted with NRCS must be approved prior to installation by a Certified Conservation Planner. This ensures the landowner and/or contractor understands the engineering, design, location, permitting, and documentation requirements for installing the practice. Once a practice has been installed, the Certified Conservation Planner will also need to conduct a field visit, landowner interview and collect required documentation in order to certify the practice meets NRCS Standards. As appropriate, additional post implementation monitoring will be provided by the landowner, WSRCD, and TCRCD Mobile Irrigation Lab.

**Task 1: TAC Development** – The time frame for completing the TAC responsibilities is between months 1 and 34 and the deliverables will include; advertising for members, member list, roles and responsibilities, meeting agendas, sign in sheets and minutes. The Western Shasta Resource Conservation District (WSRCD) will convene a Technical Advisory Committee (TAC) consisting interested stakeholders, representatives from each partner agency in the project and the Cow Creek Watershed Management Group (CCWMG). The TAC will also recruit members and technical advisors from within the local community to assist in project design and performance. The TAC will meet quarterly to review progress of current and future projects. The TAC will work with the WSRCD to monitor progress on project goals and to facilitate communication with the community. The results of annual monitoring reports will be presented at TAC meetings to provide adaptive management feedback for future design and management decisions.

**Task 2: Community Outreach-** The time frame for completing the community outreach will be between month 1 and month 34. The deliverables will include press releases, new articles, photo documentation, field tours/demonstrations, community meetings minutes and reports.

**Task 3: Landowner agreements on selected sites -** The time frame for completing this work is between months 2 and 8. The deliverables will include signed landowner agreements. The landowner agreements already obtained by NRCS and will be reviewed by the WSRCD to make sure they encompass all aspects of the project proposal.

**Task 4: Permits-** The time frame for the completion of the permits will be between months 4 and 8. New unspecified projects will be permitted as needed throughout the grant. Deliverables will include obtaining and completing any needed permits to complete proposed projects



**Task 5: Pre-Project Monitoring-** The time frame for completing this work is between months 6 and 12. The deliverables include photo documentation at project locations, and any water quality improvement identified by the Mobil Irrigation lab.

Mobil Irrigation Lab sample documents can be found in (**Attachment B**)

**Task 6: Implementation-** The time frame for completing the implementation is between months 12 and 30. The deliverables include project completion notification from the NRCS and expense receipts from the landowner for completing the project work.

**Task 7: Post-Project Monitoring-** The time frame for completing this work is between months 24 and 34. The deliverables include photo documentation at project locations, any follow up studies to pre-project Mobil Irrigation lab studies to calculate improvements in productivity.

**Task 8: Draft and Final Project Report -** The time frame for completing this work is between months 32 and 34. The deliverables include a Draft Project Report that comprises the results of the work listed above. The report shall include the following sections:

- a. A brief introduction section including a statement of purpose, the scope of the project, and a description of the approach and techniques used during the project.
- b. Details of the projects implemented on each of the 7 identified land ownerships and the additional qualified ownerships.
- c. A summary of the results

A copy of the Draft and Final Project Report will be delivered to the TAC and Grant Manager for review and comment.

**Task 9: Final Grant Report-** The time frame for completing this work is between months 34 and 36. The deliverables include preparing a final grant report in a format required by the grantor along with a final invoice.

## **5. Performance Evaluation**

As many of the ecosystem properties are difficult to define quantitatively, monitoring will consist of mainly qualitative measures. In addition to any monitoring, landowner accounts will be documented. Although landowner observation can be antidotal at best, but information based on the experience of working on the land daily can be invaluable for understanding changes that occur on the landscape. Monitoring will vary slightly however NRCS standard measures will be used. Each project must be evaluated for its expected impact and certified by an NRCS planner. All resources are assessed prior to the implementation of any practice and well documented throughout the life of the contract. Based on this information, there is sufficient evidence to document the ecosystem impacts of project implementation.

All records for NRCS projects are included in the conservation plan developed prior to the implementation of a practice and are kept in a contract folder at NRCS. The conservation plan documents include, but are not limited to:

- Resource Checklist of baseline conditions



- Resource inventory map, which includes existing structures such as fences, watering facilities, wetlands, etc.
- Conservation Plan map, which locates all planned practices
- Soils Map
- Endangered species habitat map
- Estimated Water Savings worksheet for irrigation related practices – (**Attachment C**)
- Environmental Assessment to comply with NEPA
- Timeline and brief description of practices to be implemented
- Practice Requirements form to be completed by a Certified NRCS Planner, signed by the landowner
- Engineering specifications as required
- Photo documentation of project sites before and after implementation
- Documentation of Practice Certification once the practice is successfully implemented
- Technical notes recorded by the Conservation Planner assigned to the project
- Quantitative measures or qualitative assessments

In addition to the NRCS conservation plan/contract, WSRCD will develop a set of practice requirements that documents the expectation for continued monitoring by the landowner, WSRCD or TCRCD. These requirements will be kept separate from the NRCS requirements to reinforce the value of added cost share from the ERP grant.

### **Stream Monitoring**

- Photo Monitoring
- Degree Of Disturbance Due To Cattle
- Plant Composition
- Bare Ground

### **Range Monitoring**

- Photo monitoring
- Residual Dry Matter (RDM) measurements
- Plant Composition
- Bare Ground
- Evidence Of Erosion – rill, gully

### **Water Quantity Monitoring**

- Mobile Irrigation Lab – Distribution Uniformity, cumulative use comparisons, etc.
- NRCS Estimated Water Savings Spreadsheet

### **Wildlife Monitoring**

- Visual Assessments



### **Project Specific Performance measures**

As described in the Conceptual Model section, initial resource evaluation and project development is based on Section III of the Field Office Technical Guide - Resource Quality Criteria ([www.nrcs.usda.gov/technical/efotg/](http://www.nrcs.usda.gov/technical/efotg/)). This set of resource criteria also lists various “Assessment Tools” that may be used for resource evaluation. Several tools are available for each resource; the most probable measures will include photo documentation and narrative analysis, RDM measurements pre and post practice implementation, TCRCD Mobile Lab results and Landowner interviews. When feasible, additional quantitative assessments will be made. As many of the practices to be installed are highly dependant on successful management post-installation, documenting the personal value of the practice from the landowner’s perspective is important.

Another performance measure would be the interest in landowners to apply for program funding through NRCS with the added financial incentive from ERP. There may be a possibility of more applications made than can be funded. In which case, it would be beneficial to keep track of the number of actual applications vs. those funded, as well as the type of projects. With reason to assess whether an increase in funding assistance promotes an increase in application numbers (i.e. is the financial cost of practicing good conservation a primary barrier for people, or is it just an easy rational used to justify not doing anything...."I'd like to do better, but it's just so darn expensive."

### **ADAPTIVE MANAGEMENT**

All hypotheses regarding ecosystem impact will be clearly stated on a project by project basis. Each project will vary in the level of resource recovery or improvement. Therefore, criteria that indicate success must be determined at the onset of the planning phase. This will ensure monitoring provides an indication that success criteria are achieved.

Once the practices have been measured for their impact on the ecosystem, the results will be compared with the “State Quality Criteria” also listed in the Resource Quality Criteria to test whether the expected result was achieved. In addition, the degree of changes in specific measurements pre and post implementation can offer some criteria for success.

Some specific parameters or criteria to indicate success will be based on monitoring such as:

- Irrigation System conversions will be tested based on the Estimated Water Savings Spreadsheet, which provides an estimated amount of water to be saved.
- RDM measurements will increase over baseline conditions
- Rill and gully erosion will be eliminated or recovering successfully
- Degree of visually detectable response in the landscape
- Bird counts could reflect positive changes in vegetation along riparian corridors. As the structural diversity increases, bird populations are expected to increase.

The NRCS planning process inherently involves adaptive management. As challenges arise during project implementation, modifications can be made during the process given approval by the NRCS and WSRCD. Modifications are generally rare during the implementation process. However, larger practices that have engineering designs associated, are the most likely to require adaptive measures.



Once a project is complete, if the expected outcome is not achieved, the practice cannot be certified by NRCS until additional measures have been identified to correct the problem. Once again, in general, this is not expected. If the same practice continues to not produce expected results, NRCS staff would be required to retain documentation and make adjustments to practice standards and installation requirements. This information would be used in the development of future conservation plans where the same practice is being considered.

## **6. Feasibility-**

The Farmer and Rancher Assisted Ecosystem Restoration and Watershed Stewardship Projects are crucial for improving water quality and riparian ecosystems. The implementation and pre- and post-monitoring presented in previous sections is feasible and appropriate for the evaluation of restoration actions taken in the Cow Creek Watershed. All partner agencies have a long history of successful joint project implementation with the WSRCD. The proposed projects will add to the current activities currently under way with the NRCS EQIP program and strengthens the current information that is drawn from restoration activities on the watershed. The WSRCD, CCWMG, NRCS and the participating agencies have demonstrated the ability to successfully plan and implement ecosystem restoration projects, both in a timely manner and within budget. Previous funding support from CALFED ((04-162-555-0) PIN # 900) is being used to successfully implement fish screens on two previously identified problem diversions, demonstration tailwater ponds and ditch piping feasibility studies on five large diversions to increase water quality and quantity.

The Farmer and Rancher Assisted Ecosystem Restoration and Watershed Stewardship Projects are subject to all local, state, and federal environmental regulatory requirements. Any federal regulatory requirements will be completed by the NRCS, and all state and local requirements will be completed by the WSRCD.

## **7. Data Handling and Storage-**

Because of the number of individual of projects and complexity of the various tasks of this project, a large volume of data and project-related information will be generated. It is essential that the project data be handled and stored to guarantee both its scientific validity and its accessibility to staff and to other professional entities. Quality Control/Quality Assurance and information availability are both essential components of the data handling and storage process.

Data handling and storage will be coordinated by NRCS & WSRCD with data components located at the appropriate agency offices. Project data will be stored in Microsoft Word, Microsoft Excel, AutoCad Land Development Desktop 2 and 3. All design documents produced will be saved in PDF format for ease of viewing and sharing. WSRCD will be the central clearing-house for all reports and data, which can be made accessible through e-mail, the WSRCD web site and online at The Watershed Information Model, an online data catalog that currently has over 747 archived documents and resources on watersheds in Shasta County including Cow Creek Watershed. The WSRCD will additionally incorporate procedures to archive data files on CD's, duplicated and stored off-site as a precaution

## **8. Information Value-**



Because of the significance of the current work taking place in the watershed and its unique situation, Cow Creek has been, and will continue to be, the focus of extensive agricultural improvements, experimentation, monitoring, demonstration projects, and technical information development due to the large agriculture based community. The final report from this project will be used to guide the implementation of range, pasture, riparian modification/improvement and water quality in the watershed by both landowner groups and agencies.

Three comprehensive workshop/field tours will be held each year to inform landowners and agency personnel of our current activities and educate interested patrons of proper restoration activities to encourage private restoration activities that will improve the ecosystem. Three presentations discussing the current project activities will be made at the CCWMG annual community meeting.

## **9. Public Involvement and Outreach-**

The education and outreach program for this project has multiple components. Individual members of the Watershed Group and TAC including WSRCD employees have given, and will continue to give field tours and demonstrations of the watershed projects to landowners, other agencies and educational institutions on a regular basis. By producing detailed press releases and the final grant report this will allow landowners not directly involved in the current practices the ability to demonstrate their own ecosystem restoration projects.

## **B. Applicability to CALFED Bay Delta ERP Goals and Objectives**

### **1. ERP Priorities**

Priority management practices include:

- Semi-permanent wetlands and shallow water areas for wildlife
- Tailwater return ponds/habitats
- Irrigation management
- Erosion control
- Riparian and floodplain restoration in agricultural landscape

### **Solicitation priorities:**

**ERP Priority:** Projects that contribute to understanding the relative effectiveness of different conservation-based farming practices and systems, and their contribution to larger restoration efforts.

Develop and implement irrigation efficiency procedures through tailwater recovery, ditch piping and land augmentation. After the completion of these practices education and outreach developed throughout the grant period will assist neighboring landowners in duplicating the projects with direction from produced documents and hands on experience provided from field tours.

**ERP Priority:** Projects that develop and implement agricultural activities that benefit MSCS covered species.

Enhance habitat and contribute to the recovery of these MSCS covered species;

- Central Valley Steelhead ESU
- Sacramento River Winter Run Chinook Salmon
- Valley Elderberry Longhorn Beetle
- Bank Swallow



- Central Valley Fall/late fall-run Chinook Salmon

**ERP Priority:** Projects that protect farmland that benefits MSCS-covered species and provide a buffer for restored habitats from adverse effects of encroaching incompatible development.

Projects being conducted on the Rickert Ag Services property will be completed in ordinance of the Shasta Land Trust which holds all of the development rights for the property.

### **Restoration Priorities:**

**Restoration Priority:** Develop and implement habitat management and restoration actions in collaboration with local groups such as the Sacramento River Conservation Area Non-Profit Organization.

**Restoration Priority:** Restore fish habitat and fish passage particularly for spring-run chinook salmon and steelhead trout and conduct passage studies.

**Restoration Priority:** Conduct adaptive management experiments in regard to natural and modified flow regimes to promote ecosystem functions or otherwise support restoration actions.

**Restoration Priority:** Restore geomorphic processes in stream and riparian corridors.”

**Restoration Priority:** Implement actions to prevent, control and reduce impacts of non-native invasive species in the region.

### **ERP Restoration Program Milestones for the Sacramento River Basin:**

This proposal measures progress toward ERP milestones in floodplain habitat, and instream flows including these directly addressed milestones;

62f- Status of program to establish, restore, and maintain riparian habitat to improve floodplain habitat; this will be addressed by restoring habitat through riparian fencing, wetlands enhancement, land augmentation.

66a- status of a program to address the inadequate instream flows for steelhead and Chinook salmon in the north Sacramento valley EMZ; this milestone will be dealt with through irrigation system sprinklers, conveyance pipelines and irrigation tailwater recovery pond.

## **2. Relationship to Other Ecosystem Restoration Actions or Programs Investments:**

Cow Creek Watershed is one of the final tributaries to the Sacramento River before Shasta and Keswick Dams. With stream flow available from the USGS gauge, the opportunity to experiment and learn from projects in the watershed is exceptional. With the direct link to the current water quality monitoring that collects e.-coli and water temperature at 22 locations through out the Cow Creek watershed, this project complements current demonstration projects in the Cow Creek Watershed that are focusing on tailwater retention, fish screens and ditch piping feasibility studies. After the completion of these demonstration projects water quality is expected to improve throughout the watershed, therefore increasing fish populations in the upcoming years. With the completion of the proposed project and the current projects being concluded this will develop a strong relationship to the CALFED Watershed Program.



With an experienced stakeholder group in place, and other rehabilitation efforts established, and with relatively low risks due to private ownership and the general lack of development within the floodway, Cow Creek has the potential to be a model restoration river for CALFED and CVPIA programs focused on restoration-agriculture partnerships. Cow Creek is also one of the top priority streams for the CALFED EWP.

The highest project priority is to maximize the opportunity to gain valuable information, and to achieve this goal expediently. As emphasized throughout this proposal, information gathered from this project, can be extrapolated to restoration efforts throughout the entire Central Valley where farming and ranching directly interact with ecosystem restoration activities.

### **3. Additional Information for Proposals Involving Land or Easement Acquisition -**

N/A due to project activities on private land

### **C. Qualifications and Organization**

**Qualifications** – Summaries of the professional biographies of project participants are as follows:

#### **WSRCD**

**Mary Schroeder**, District Manager, received a B.S. degree in Forest Industries Management from Ohio State University, Columbus, Ohio. She has over 25-years business management experience in natural resource and wood products industries. As chief administrative officer of the District, Mary is responsible for directing the District's business and field operations consistent with the strategic plan. Mary will oversee general administration of the grant, and ensure adherence to budget and timeline.

**Michael Harris**, Projects Manager for watershed restoration, fisheries, and wildlife. He has a B.S. in Biology from California State University-Sacramento, and a B.A. in Economics from the University of California-Davis, and is completing his Master of Science in Biological Conservation from the California State University-Sacramento. Michael's experience includes habitat sampling; scheduling and data management; vertebrate sampling of mammals, reptiles and amphibians; monitoring of avian species. His publications include 2001 and 2002 California Department of Transportation –Carmel River Mitigation Bank Report. Michael's thesis will be titled "Small Mammal Microhabitat Analysis of a Restoration Site." Michael will work directly with all project participants to monitor their work and measure their progress toward project monitoring goals.

**James Moller**, Watershed Coordinator of the Cow and Bear Creek Watersheds. Received a B.S. degree in Agriculture Business emphasized in management and marketing from California State University Chico and earlier received an A.A. degree in Agriculture Production from Shasta College. James received his education from hands on experience growing up on a cattle ranch and working in his family's construction company doing abandoned mine closures and reclamation. As a watershed coordinator, James collaborates with willing landowners for education/outreach and project implementation. James works with other agencies that have a role in daily operations in the watershed.

**Chris Glover**, WSRCD GIS Specialist, holds a Certificate of Completion in GIS from Shasta College, as well as a B.S. in Human Development from the University of California, Davis. He has several years experience in GIS including continuing education in Mobile GIS and is responsible for maintaining and expanding the district's library of spatial and non-spatial data, GIS data research and management, and GIS map production. His duties support the GIS needs for current and future WSRCD projects. He is the Project Coordinator for the Watershed Information Model, overseeing semi-annual updates, monthly reporting and frequent public outreach.

**John Ribinsky** is a Project Coordinator who has been with the RCD since 1999. John holds a Grade II Water Treatment Certification and his responsibilities include water and gravel sampling, as well as



stream habitat, revegetation and fuels reduction. He has fully implemented more than a two dozen projects since joining the RCD, including gravel injections, erosion control, and wildfire rehabilitation. **Phil Garbutt** is the Assistant Project's Coordinator for the district, responsible for the successful implementation of erosion, fuels reduction and revegetation projects. His specialty is conducting erosion inventories, ensuring all sites are well-documented and landowners have been contacted regarding the findings, implementing erosion control practices, revegetation of floodplains and riparian habitats, and other watershed management practices, using computer skills and software applications to construct databases and apply GIS. Phil has been with the district since 1996 and has successfully implemented dozens of on-the-ground projects.

## **NRCS**

**Robert Bailey** received a Bachelor of Science in Range Management from Humboldt State University, 1986. An NRCS employee since 1983, Bob has held the position of Soil Conservationist from 1986 to 1990 and have worked in that capacity at the Santa Maria, Red Bluff, Corning and Patterson Field Offices in California. As a Soil Conservationist he provided technical and conservation planning assistance to farmers and ranchers to install conservation systems to prevent water and wind erosion on highly erodible croplands in Stanislaus County. Bob provided planning assistance to growers in the West Stanislaus Hydrologic Unit Area to reduce irrigation induced erosion and runoff of polluted agricultural tailwater to the San Joaquin River. He assisted Ranchers with conservation plans on grazing land to promote sustainable grazing management. While implementing the 1985 Farm Bill Bob conducted wetland reviews for program applicants. In 1990, Mr. Bailey received the District Conservationist job in Redding California. In his current capacity he manages the field office staff and oversee program activities to ensure equitable program delivery to NRCS customers. As the District Conservationist Bob is responsible to provide technical support to the Shasta County Conservation District's to address local resource concerns. He holds a certified conservation planner certificate for California NRCS.

**Bo Hands** has been working for the USDA-NRCS for close to 2 years as an Agricultural Engineer. Bo received his education from Oregon Institute of Technology with a B.S. degree in Civil Engineering he also attended Shasta College receiving a A.A. degree in General Transfer. His duties include; surveying, design, construction and technical assistance. Projects range from irrigation systems to stream bank protection, access roads, and erosion control. Previously Bo worked at the Plumas County Public Works from 2001 to 2004 he specialized in surveying, road design, project management and construction inspection. Projects primarily dealt with design and maintenance issues for the county road system. Bo was born and raised in Mt. Hebron, CA (Butte Valley, Dorris area) this is where his family farmed/ranched while working in the forest industry.

**Melinda Graves** is a USDA NRCS Soil Conservationist her duties include Preparing Conservation Plans for landowners in Shasta County; provide technical assistance to farmers and ranchers to address their natural resource concerns. She received her education from the University of Wisconsin- Stevens Point with a B.S. degree in Forest Ecosystem Management and Restoration, Soil Science, also the Northeast Iowa Community College with an A.A. degree in Arboriculture. Her past work includes the Necedah National Wildlife Refuge as a Vegetation Technician this was seasonal work where she conducted vegetation surveys within various ecosystems including prairie, savanna, hardwood forest, sedge meadow, and bog communities to determine plant composition as well as monitor the effects of prescribed fire; conducted threatened and endangered species surveys throughout the refuge; mapped the occurrence of invasive plant species throughout Juneau County Wisconsin. Melinda was employed with the Minnesota Department of Natural Resources- Forestry department where she Supervised a Minnesota Conservation Corps crew on various projects including: trail maintenance and improvement, forest stand improvement, tree planting, wildfire suppression, prescribed burning, invasive species eradication, education, and natural disaster response.



**Ralph C. (Erik) Kennedy** he works for the Natural Resources Conservation Service as a soil conservation technician concentrating on agronomic planning. Nutrient and pest management, irrigation water management, and prescribed grazing are his specialties. Erik earned two degrees, a B.S. in horticultural science and a terminal M.S. in crop science from Oregon State University, Corvallis. He researched fiber flax production and worked as a graduate research assistant funded by a grant through the Oregon Grass Seed Growers association while at Oregon State.

Since completing his work there he has worked in sustainable agriculture, soil fertility, fertilizer formulation and fertility consulting, organic crop production, and conservation planning. He formulated a liquid organic fertilizer line, developed organic fertility programs for many crops, and shared his knowledge with growers across the country, Canada, and the United Arab Emirates where his products are registered. Presently,.

### **OTHER**

**Bob Harris** is the President of the Cow Creek Watershed Management Group, Vice President of the Shasta Tehama Watershed Education Coalition, Shasta County Cattlemen's Association Board member and Sacramento Valley Water Quality Coalition Steering Committee member. He also just completed a four year term on the Sacramento River Watershed Program Board of Trustees and was the organization's first chairperson. Bob owns and operates a cow/calf ranch using BMP and sustainable farming techniques on South Cow Creek in Shasta County and is currently working with the NRCS on a conservation plan for his ranch. Bob attended the University of California Berkeley and has Masters Degrees in Engineering and Management. He spent forty years in the aerospace industry. His executive management experience included managing an eleven thousand acre research, development, production and test facility.

### **D. Cost**

The total estimated cost to complete the Farmer and Rancher Assisted Ecosystem Restoration and Watershed Stewardship Project for the Cow Creek Watershed is \$777,924.91 of which 41% is cost-share making this request \$456,428.91.

### **1. Budget**

Task 1: \$12,073.22

Task 2: \$22,642.93

Task 3: \$4,328.65

Task 4: \$37,966.75

Task 5: \$33,608.25

Task 6: \$291,890.75

Task 7: \$34,646.85

Task 8: \$9,758.07

Task 9: \$9,513.43

### **2. Cost Share and Matching Funds -**

#### **Detailed Cost Share**

Agency participation in Technical Advisory Committees (TAC) meetings 108 hours at \$45/hour is \$4,860

UC Cooperative Extension field tour and community meeting assistance \$2,000

NRCS and landowner contributions toward project completion come from the NRCS needed practices.



NRCS EQIP funding 50% = \$176,730  
Landowner contributions 10% = \$25,406  
Additional NRCS and landowner contributions is 60% or \$112,500

### **3. Long Term Funding Strategy-**

The education program and community outreach activities will bring to the NRCS program a new level of participation and EQIP cost-share programs in the future.

### **E. Compliance with Standard Terms and Conditions-**

The WSRCD and NRCS agree to comply with the standard terms and conditions of the grant contract

### **G. Literature Cited**

George, Melvin R. 1991. **Grazing and land management strategies for hardwood rangelands.** 1991. USDA Forest Service Gen. Tech Rep. PSW-126.

National Management Measures to Control Nonpoint Source Pollution from Agriculture;  
EPA 841-B-03-004, July 2003; [www.epa.gov/owow/nps/agmm/](http://www.epa.gov/owow/nps/agmm/)

Cow Creek Watershed Assessment, WSRCD November 2001

Cow Creek Watershed Management Plan, WSRCD March 2005

(NRCS 6) - NRCS website:

[http://www.ssi.nrcs.usda.gov/publications/2\\_Tech\\_Reports/T007\\_BrieHbert.PDF](http://www.ssi.nrcs.usda.gov/publications/2_Tech_Reports/T007_BrieHbert.PDF)

### **H. Non Profit Verification**

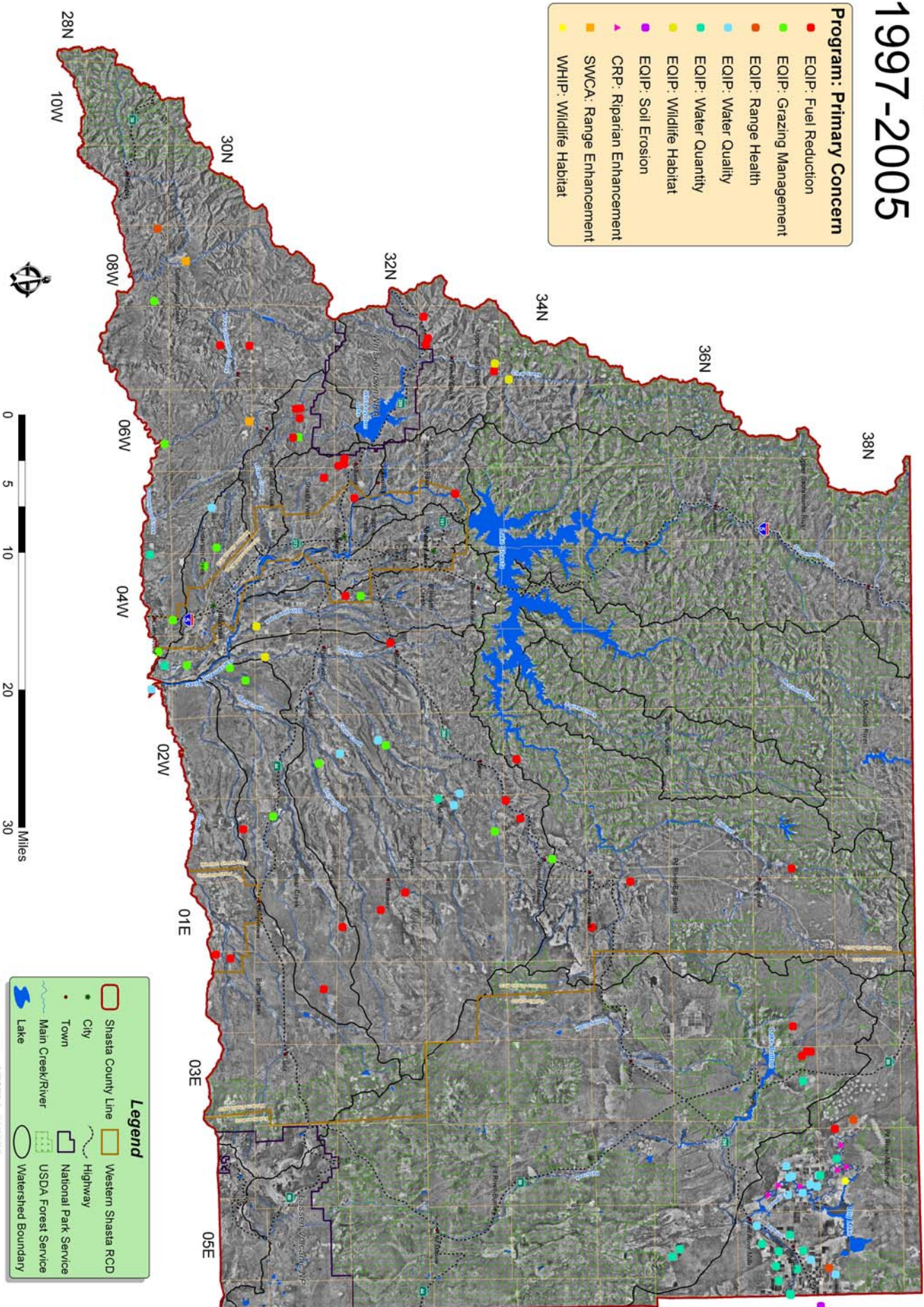
N/A - because we are a special district of the state and considered local government



# NRCS Cost Share Programs Redding Field Office

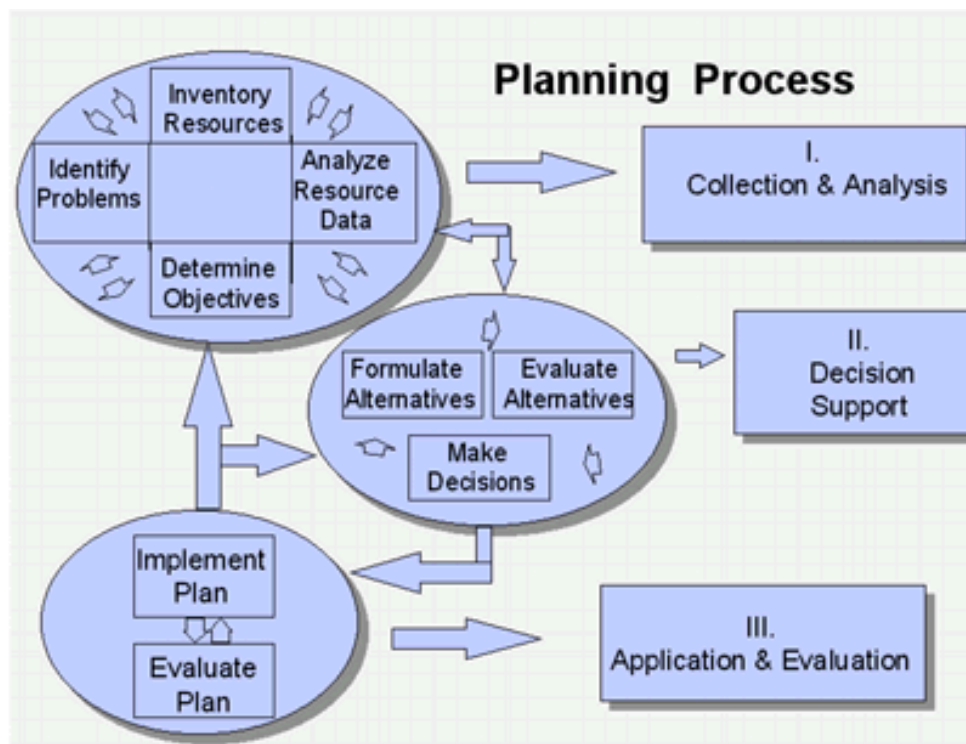
## 1997-2005

- Program : Primary Concern**
- EQIP: Fuel Reduction
  - EQIP: Grazing Management
  - EQIP: Range Health
  - EQIP: Water Quality
  - EQIP: Water Quantity
  - EQIP: Wildlife Habitat
  - EQIP: Soil Erosion
  - CRP: Riparian Enhancement
  - SWCA: Range Enhancement
  - WHIP: Wildlife Habitat



- Legend**
- Shasta County Line
  - City
  - Town
  - Main Creek/River
  - Lake
  - Western Shasta RCD
  - Highway
  - National Park Service
  - USDA Forest Service
  - Watershed Boundary





**Figure 1. Diagram of the NRCS Planning Process (Figure copied from NRCS Conservation Planning-Part 1: Module 3 – Key Elements of Conservation Planning).**



National and State Resource Concerns and Quality Criteria				
Natural Resource Concern	Description of Concern	National Quality Criteria	California State Quality Criteria	Assessment Tools for Quality Criteria Evaluation
<b>WATER</b>				
<b>Water Quantity – Insufficient Flows in Water Courses</b>	Water flows are not consistently available in sufficient quantities to support ecological processes and land use and management	Authorized uses and management of water are coordinated to minimize the impacts on water course flows.	Same as National	<ul style="list-style-type: none"> <li>▪ Visual assessment</li> <li>▪ Water flow records</li> <li>▪ Gauge Station Data</li> <li>▪ Consumptive use/allocation water rights</li> <li>▪ Habitat Evaluation Guides</li> <li>▪ National Biology Handbook</li> </ul>
<b>Water Quality - Harmful Levels of Pesticides in Groundwater</b>	Residues resulting from the use of pest control chemicals degrade groundwater quality.	Pesticides are applied, stored, handled, disposed of, and managed so that groundwater uses are not adversely affected	Farming practices, including irrigation water management, minimize the transport of pesticides.	<ul style="list-style-type: none"> <li>▪ WIN-PST (Windows Pesticide Screening Tool – USDA/NRCS)<sup>7</sup></li> <li>▪ NAPRA (National Agricultural Pesticide Risk Analysis – USDA/NRCS)<sup>7</sup></li> <li>▪ Vadose zone and groundwater chemical sampling and assay</li> </ul>

**Figure 2. Excerpt from the Field Office Technical Guide, Section III - California Resource Quality Criteria – Water; Natural Resources Conservation Service; Davis, California; August 15, 2003; [www.nrcs.usda.gov/technical/efotg/](http://www.nrcs.usda.gov/technical/efotg/)**



NRCS Conservation Practice Physical Effects															
	Brush Management (314)	Dam, Diversion (348)	Fence (382)	Irrigation System, Sprinkler (442)	Irrigation System, Tailwater Recovery (447)	Irrigation Water Conveyance, Pipeline, Low-Pressure, Underground, Plastic (430EE)	Irrigation Water Management (449)	Pumping Plant (533)	Range Planting (550)	Riparian Herbaceous Cover (390)	Water Well (642)	Watering Facility (614)	Wetland Enhancement (659)		
Fish & Wildlife															
Imbalance Among and Within Populations	3	-2	0	0	0	0	0	0	2	4	4	4	4		
Inadequate Cover/Shelter	3	-3	0	0	0	0	0	0	3	4	0	0	5		
Inadequate Food	3	-2	0	0	0	0	0	0	3	4	0	0	5		
Inadequate Space	3	-2	-2	0	0	0	0	0	4	4	0	2	4		
Inadequate Water	0	-2	0	1	1	0	0	0	0	2	2	2	2		
Threatened and Endangered Fish and Wildlife Species	0	0	0	0	0	0	0	0	0	0	0	0	4		
Habitat Fragmentation	3	-2	-2	0	0	0	0	0	4	4	0	2	4		
T&E Species: Declining Species, Species of Concern	0	0	0	0	0	0	0	0	0	0	0	0	4		
Soil Erosion															
Classic Gully	3	0	0	0	1	2	0	0	3	0	0	1	0		
Ephemeral Gully	3	0	0	0	1	0	0	0	4	1	2	2	0		
Irrigation-induced	0	0	0	3	0	0	3	0	0	0	0	0	0		
Mass Movement	-2	0	0	0	0	0	0	0	0	1	0	0	0		
Road, Road Sides and Construction Sites	0	0	0	0	1	0	0	0	0	0	0	0	0		
Sheet and Rill	3	0	0	0	0	0	0	0	4	2	2	2	0		
Shoreline	1	0	0	0	1	0	0	0	2	4	0	4	3		
Streambank	1	-1	0	0	1	0	0	0	2	4	0	4	0		
Wind	3	0	0	3	0	0	3	0	4	2	2	2	0		
Water Quality															
Excessive Nutrients and Organics in Groundwater	0	0	0	1	-1	0	3	0	2	5	0	0	1		
Excessive Nutrients and Organics in Surface Water	0	0	0	2	2	1	3	0	1	5	0	0	3		
Excessive Salinity in Groundwater	-1	0	0	2	-1	2	3	0	1	1	0	0	0		
Excessive Salinity in Surface Water	1	0	0	2	1	1	2	0	1	1	0	1	1		
Excessive Suspended Sediment and Turbidity in Surface Water	3	0	0	0	1	1	3	0	3	4	0	2	2		
Harmful Levels of Heavy Metals in Groundwater	0	0	0	1	-1	1	2	0	1	1	0	0	0		
Harmful Levels of Heavy Metals in Surface Water	1	0	0	1	4	-1	3	0	2	2	0	1	2		
Harmful Levels of Pathogens in Groundwater	0	0	0	1	0	1	2	0	1	2	0	-1	0		
Harmful Levels of Pathogens in Surface Water	0	0	0	2	1	-1	3	0	1	3	-1	1	1		
Harmful Levels of Pesticides in Groundwater	-1	0	0	2	2	0	3	0	2	2	0	0	1		
Harmful Levels of Pesticides in Surface Water	-1	0	0	2	2	0	3	0	2	2	0	0	1		
Harmful Levels of Petroleum in Groundwater	0	0	0	1	0	0	1	-1	0	0	0	0	0		
Harmful Levels of Petroleum in Surface Water	0	0	0	2	2	0	3	0	0	1	0	0	0		
Harmful Temperatures of Surface Water	0	-2	0	0	0	0	0	0	0	2	0	1	0		

**Figure 3. Conservation Practice Physical Effects Matrix: Fish & Wildlife resources and proposed Conservation Practices with respective degree of resource impact.**



NRCS Conservation Practice Physical Effects		Brush Management (314) Dam, Diversion (348) Fence (382) Irrigation System, Sprinkler (442) Irrigation System, Tailwater Recovery (447) Irrigation Water Conveyance, Pipeline, Low-Pressure, Underground, Plastic (430EE) Irrigation Water Management (430EE) Pumping Plant (533) Range Planting (530) Riparian Herbaceous Cover (390) Water Well (642) Watering Facility (614) Wetland Enhancement (659)														
Water Quantity																
Aquifer Overdraft		1	0	0	3	2	0	2	1	0	0	-2	0	0		
Drifted Snow		0	0	0	0	0	0	0	0	0	0	0	0	0		
Excessive Runoff, Flooding, or Ponding		2	3	0	2	1	0	0	2	2	-3	0	0	0	3	
Excessive Seepage		-2	0	0	0	-1	1	0	2	0	2	0	0	0	0	
Excessive Subsurface Water		-2	0	0	1	-1	1	1	2	0	2	2	0	0	0	
Inadequate Outlets		1	3	0	3	3	2	0	2	1	0	0	0	0	3	
Inefficient Water Use on Irrigated Land		0	3	0	5	3	3	3	3	0	0	2	0	0	0	
Inefficient Water Use on Non- irrigated Land		2	3	0	0	0	0	0	3	3	0	0	0	0	0	
Insufficient Flows in Water Courses		3	-2	0	1	1	1	2	0	2	4	0	0	0	0	
Reduced Capacity of Conveyances by Sediment Deposition		3	0	0	3	3	0	3	0	4	4	0	1	0		
Reduced Storage of Water Bodies by Sediment Accumulation		3	0	0	3	3	0	3	0	2	5	0	1	3		
Rangeland Hydrologic Cycle		3	0	0	0	0	0	0	0	4	3	0	0	0		
Plant Condition																
Forage Quality and Palatability		4	0	0	0	0	0	3	0	5	4	0	0	0	0	
Noxious and Invasive Plants		4	0	0	1	0	0	1	0	4	4	0	0	0	4	
Plants not adapted or suited		4	0	0	0	0	0	0	0	5	4	0	0	0	4	
Productivity, Health and Vigor		3	0	0	3	3	3	3	3	5	5	1	2	4		
Threatened and Endangered Plant Species		0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Wildfire Hazard		4	0	0	0	0	0	0	0	0	0	0	0	0	0	
T&E Plant Species: Declining Species, Species of Concern		0	0	0	0	0	0	0	0	0	0	0	0	0	0	

**Figure 3 (continued). Conservation Practice Physical Effects Matrix: Fish & Wildlife resources and proposed Conservation Practices with respective degree of resource impact.**



NRCS - Needed Practices				Cost Share for Needed Practices			Adjusted Cost Share From Grant Money	
Project #	Planner	Practice Code	Planned Practice	Total Planned Cost	50% NRCS Cost Share	50% Cost Share Client	40% Cost Share WSRCD	10% Cost Share Client
1	Melinda							
		348	Dam - Diversion	\$ 5,000.00	\$ 2,500.00	\$ 2,500.00	\$ 2,000.00	\$ 500.00
		382	Riparian Fence	\$ 8,050.00	\$ 4,025.00	\$ 4,025.00	\$ 3,220.00	\$ 805.00
		447	Irrigation - Tailwater recovery	\$ 31,500.00	\$ 15,750.00	\$ 15,750.00	\$ 12,600.00	\$ 3,150.00
		430	Conveyance Pipeline 12" pvc 2600'	\$ 43,000.00	\$ 21,500.00	\$21,500.00	\$ 17,200.00	\$ 4,300.00
		447	Irrigation - Tailwater Recovery	\$ 41,500.00	\$ 20,750.00	20,750	\$ 16,600.00	\$ 4,150.00
Total Costs Practices_Judy Fields:				\$ 129,050.00	\$ 64,525.00	\$ 64,525.00	\$ 33,800.00	\$ 8,450.00
2	Bob							
		430 EE	Irrigation Water Conveyance Pipeline	\$ 90,000.00	\$ 45,000.00	\$45,000.00	\$ 36,000.00	\$ 4,500.00
		314	Brush Management	\$ 17,500.00	\$ 8,750.00	\$8,750.00	\$ 7,000.00	\$ 1,750.00
Total Costs Practices_George McArthur:				\$ 107,500.00	\$ 53,750.00	\$53,750.00	\$ 43,000.00	\$ 6,250.00
3	Melinda							
		382	Fence (3 projects)	\$ 42,000.00	\$ 21,000.00	\$ 21,000.00	\$ 16,800.00	\$ 4,200.00
		314	Brush Management	\$ 3,750.00	\$ 1,875.00	\$ 1,875.00	\$ 1,500.00	\$ 375.00
		382	Fence	\$ 6,300.00	\$ 3,150.00	\$ 3,150.00	\$ 2,520.00	\$ 630.00
		614	Watering Facility (2 projects)	\$ 1,600.00	\$ 800.00	\$ 800.00	\$ 640.00	\$ 160.00
		442	Irrigation System Sprinkler	\$ 6,000.00	\$ 3,000.00	\$ 3,000.00	\$ 2,400.00	\$ 600.00
		642	Water Well	\$ 7,000.00	\$ 3,500.00	\$ 3,500.00	\$ 2,800.00	\$ 700.00
	533	Pumping Plant	\$ 5,000.00	\$ 2,500.00	\$ 2,500.00	\$ 2,000.00	\$ 500.00	
Total Costs Practices_Frank Lima:				\$ 71,650.00	\$ 35,825.00	\$ 35,825.00	\$ 28,660.00	\$ 7,165.00
4	Bob							
		390	Riparian Herbaceous Cover-hand	\$ 5,600.00	\$ 2,800.00	\$2,800.00	\$ 2,240.00	\$ 560.00
		462	Precision Land Forming (gully)	\$ 5,000.00	\$ 2,500.00	\$2,500	\$ 2,000.00	\$ 500.00
Total Costs Practices_Rickert:				\$ 10,600.00	\$ 5,300.00	\$5,300.00	\$ 4,240.00	\$ 1,060.00
5	Erik							
		382	Fence	\$ 7,000.00	\$ 3,500.00	\$ 3,500.00	\$ 2,800.00	\$ 700.00
		382	Fence	\$ 4,000.00	\$ 2,000.00	\$2,000.00	\$ 1,600.00	\$ 400.00
Total Costs Practices_Linda Estes:				\$ 11,000.00	\$ 5,500.00	\$ 5,500.00	\$ 4,400.00	\$ 1,100.00
6	Melinda	382	Fence	\$ 8,160.00	\$ 4,080.00	\$ 4,080.00	\$ 3,264.00	\$ 816.00
		Total Costs Practices_Carlos:				\$ 19,160.00	\$ 9,580.00	\$ 9,580.00
7	Melinda							
		659	Wetland Enhancement	\$ 750.00	\$ 375.00	\$ 375.00	\$ 300.00	\$ 75.00
		550	Range Planting	\$ 1,750.00	\$ 875.00	\$ 875.00	\$ 700.00	\$ 175.00
		659	Wetland Enhancement	\$ 2,000.00	\$ 1,000.00	\$1,000.00	\$ 800.00	\$ 200.00
Total Costs Practices_Wendt:				\$ 4,500.00	\$ 2,250.00	\$ 2,250.00	\$ 1,800.00	\$ 450.00
TOTAL AMOUNTS FOR NEEDED PRACTICES:				\$ 281,810.00	\$ 176,730.00	\$ 176,730.00	\$ 123,564.00	\$ 25,406.00





**Tehama County Resource Conservation District**

2 Sutter Street, Suite D ♦ Red Bluff, California ♦ 96080 ♦ 530-527-3013 ♦ Fax: 530-527-7451

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September 19, 2005

Joe Smith  
1234 Alpha St  
Anywhere, Ca 96035

Joe,

As you are aware, both UC Cooperative Extension Farm Advisor Allan Fulton and I conducted a day long examination of the irrigation system located on property along Canyon Avenue where you have a use agreement with the landowner, Mr. Donald Dean. Copies of this letter will also be supplied to Mr. Dean, and to the manager of the Irrigation District.

This visit was the result of queries you made concerning the adequacy of irrigation water supply and what seemed to you an inordinately long time required to irrigate this parcel of land.

Your question about the water delivery quantity is something we did not address during our observations, as we did not have the required equipment. Allan can measure flow at the pump, but he needs permission from the irrigation district, since the method requires modifying the pump discharge pipe. However, we would suggest use of a certified commercial company to provide the pump test and measure of flow, since the results could be subject to debate. Neither of us can involve ourselves in a water quantity debate between an irrigator or landowner and an irrigation district.

Our observations were conducted to give us some familiarity with the irrigation system present on this parcel of ground. This letter details the observations we made at the pasture and offers suggestions on the irrigation pattern, without addressing the water quantity issue.

**Irrigation Uniformity**

Uniformity of surface irrigation requires uniform flow into all border strips irrigated in a set. We initially observed that the valve tops had been removed from four valves on the delivery pipeline and that flow was much higher from two of the valves and much lower in the other two valves. The delivery pipe and alfalfa valves are not on an even grade, apparently, because of varying depth of hardpan and other factors, dating to the installation of the delivery pipe and settling that has occurred since installation. As a result, not all of the valves are at the same height and they will not all flow the same amount of water. Manual regulation of the flow by adjusting the amount that each valve is open is required to manage flow from the pipeline through the alfalfa valves. We also noticed that the threaded valve stems were about 4 inches long and as a result limited the extent that some valves could be opened and the extent that flow could be regulated. Longer stems may enable more flexibility and better control. Changing to an eight inch threaded stem on some valves may cost about \$20 per valve.

Some rough figuring of the irrigation efficiency and the irrigation uniformity indicates the present distribution uniformity is near 60%. This means some areas of the pasture receive 40 percent less water than other areas of the pasture. This is considered marginal uniformity and is fairly typical of flood irrigated pasture systems.

In older surface systems such as this one, it is fairly common to split the flow from one valve into two border strips at the same time. This is not a particularly good approach to distribution uniformity, as



it is very difficult to distribute equal flows into each border. Delivering uniform flow with this design may have been possible when the system was relatively new and the land grade was more uniform, but eventually, as a result of pasture growth, erosion and grazing, one border will begin to receive less water than the other, as we observed happening. In the fourth long border from the west edge of the field, there was very dry area about 200 feet south of the valve that has resulted from long interval between irrigations. It appeared as though it had not been irrigated beyond that point in previous irrigations (not just this season), due to an uneven split of flow from the irrigation valve. We increased the flow into the check by digging a channel to route more water into this border. When the water advance reached the very dry soil at about 200 feet from the valve, it simply infiltrated and did not cover the border very rapidly. In fact, we were unable to get the border completely irrigated without running water for an extraordinarily long time. A mechanism is needed to direct the entire flow from the valve into one border. When that border is completely irrigated, the flow can then be transferred into the next border.

### **Irrigation Practices**

It is apparent that no more than three valves should be open at one time. When four valves are open, the flow seems inadequate to irrigate the border in the time frame you would like. When only two valves are open, there is the distinct possibility of producing too much back pressure in the El Camino delivery system, enhancing the possibility of a break somewhere in the system.

There is one set of borders with short lengths on the east side of the pasture that could be managed as a single irrigation set. Since, these border strips are shorter and uniform in length, they could be irrigated together and the set time should be reduced accordingly. This will require a midday irrigation set change. A second set with a combination of longer and shorter border lengths could probably be irrigated together. This will require periodic checks of the advancement of water and then regulate either more flow into the longer checks or to reduce the shorter checks as needed for uniform irrigation. The west part of the field consists of longer borders with uniform length. They should be grouped together into two irrigation sets. The longer border lengths in these irrigation sets will require longer irrigation set times to achieve full coverage and benefit from higher flows into the borders, to the extent the district's delivery system can withstand some additional back pressure. However the pasture is irrigated, routine checks and adjustments of the water advance will be necessary.

### **Irrigation Constraints**

The single border at the west side of the pasture around Mr. Dean's house is unique because the backyard requires flood irrigation. In order for that border to run, it will need more water to irrigate than the borders in the rest of the pasture. It appeared to both of us that the lawn is higher than the pasture. The extra water necessary to irrigate this border is due to the fact that the water will have to build up enough head on the north edge (without breaking over the check to the east) of the lawn before it can flow south, across the backyard. Supply of this amount of flow may require that this be the only valve running. If the border containing the landscaping is included as one of three valves in an irrigation set the yard will not receive enough water to irrigate properly unless the irrigation set is run for a long period of time which is likely to be costly and inefficient. You are faced with contradictions of either too much back pressure on the Irrigation District delivery system to irrigate the yard landscape or too little water to irrigate the yard efficiently if that border is run with two other borders. Resolving this dilemma may prove to be a substantial challenge.

### **Irrigation Timing**

The timing of the first irrigation and the subsequent timing of the sets to follow is a factor of prime importance. If the first set is somewhat late, and if the subsequent sets are late as well, then the amount of pumping time to irrigate the pasture will increase. Once any system gets behind, it takes increasingly more time and water to catch up. The cost for an irrigation season will likely be less if irrigation begins a little earlier in the year with subsequent irrigations applied more frequently. The aim is to not let the soil profile dry too much between irrigations. Drier soil will infiltrate more water,



increasing both irrigation time and the chance that more irrigation water will percolate past the root zone of the pasture and will not be used efficiently.

Some decision about the use of the grass is necessary as well. If the early grass growth is to be used as hay, the soil will be dry by the time the hay can be hauled off of the field. This will cause the soil profile to be dry and the pasture irrigation cycle will be affected from then on. In other words, the first pasture irrigation will require both more time and water to begin with. This is not a recommendation to use the ground as either all hay or all pasture. It is presented as a factor in how the field will use water. Usage is ultimately a decision between landlord and tenant.

It looks like total irrigation times of 20 to 24 hours should suffice for the pasture (not including the western most border), if the pasture is irrigated every 10 to 14 days and if some needed changes in irrigation management are addressed. If longer intervals between irrigations are practiced, such as once every three weeks or once a month, the irrigation times will likely more than double and the pasture may not grow as desired. With this scenario it will likely cost more money to irrigate less often than more often.

### **Summary**

Possibly, the uniformity and efficiency could be improved and the costs associated with irrigation reduced, if some of the observations and suggestions that have been presented here are implemented.

We recognize the presence of economic constraints here. It is hardly possible to run enough cattle on a small unit of pasture to pay for the monthly irrigation costs or any improvements. How you approach this is certainly up to you and the landowner. However it looks as if the irrigations may have been too infrequent. Also, more frequent checking and adjustment of the irrigations while in progress, and some relatively simple improvements to the irrigation system could reduce the irrigation costs.

Feel free to contact either of us at any time.

Sincerely,

*Steve Cheyne*

*Allan Fulton*

Steve Cheyne  
Mobile Irrigation Lab Manager  
Tehama County RCD

Allan Fulton  
Farm Advisor  
UC Cooperative Extension  
530-527-3101



# Irrigated Cropland, Estimated Water Savings

Applicant ID: \_\_\_\_\_ Date: \_\_\_\_\_

## Instructions:

1. Select the correct value for each box
2. Select the crop(s) for the year after the practice is installed.
3. For multiple crops on the same field: Use this sheet for the first crop and multiply by the number of acres, repeat for each additional crop. Add these values together and divide by the total acreage.
4. For double cropping: Use this sheet twice and use the sum of the two results.
5. For crops in rotation: Select the principle crop

Predominant Soil	Crop	ET Zone Selection
Loamy Sand ▲	Corn (planting 6/17) ▲	Zone 10 ▲
Sandy Loam ■	Corn (planting 3/16) ■	<b>Zone 11</b>
Fine Sandy Loam	Cotton	Zone 12
<b>Loam</b>	<b>Crucifers</b>	Zone 13
Silt	Cucumber	Zone 14
Clay Loam	Eggplant	Zone 15
Clay	Evergreen	Zone 16
Organic ▼	Grapevines ▼	Zone 17 ▼

Practice
SURFACE IRRIGATION (Improve DU (Split runs, higher Q, etc.) ▲
SURFACE IRRIGATION (Install a tailwater recovery system) ■
<b>SURFACE IRRIGATION (Landleveling (previously leveled))</b>
SURFACE IRRIGATION (Landleveling (previously unleveled))
SPRINKLER IRR. (Hand Move/Side Roll) (Replace Surface irrigation) ▼



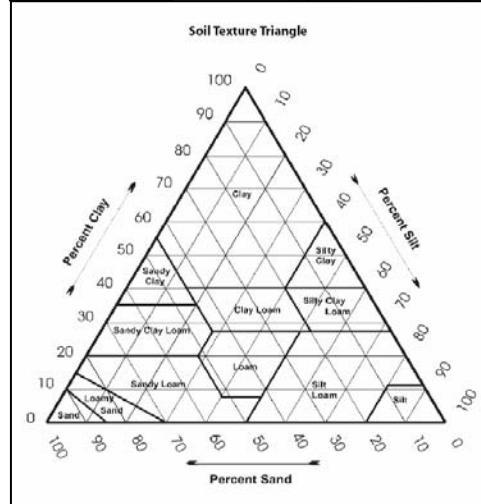
ET Zones

Estimated before practice water use **14.3 Ac-in/Ac**

Estimated after practice water use **12.8 Ac-in/Ac**

## Annual Water Savings Estimate

**1.5 Ac-in/Ac**



## Notes:

Before and after practice water use estimated as crop ET adjusted by appropriate system efficiencies. Efficiency values are described in the accompanying sheet. Water provided by effective rainfall and water required for other beneficial uses are not considered because the effect on water savings is negligible.

Crop ET from NRCS CA Consumptive Use database, representative planting and harvesting dates, UC crop coefficients and CIMIS normal ETo data.

"Predominant Soil" menu: If the actual infiltration rate of a soil at a practice site is significantly different than would be expected for its texture, then select a soil texture that best represents the actual infiltration rate. (i.e. The infiltration rate of a Hanford fine sandy loam is more like that of a clay soil.)



# Tasks And Deliverables

Task ID	Task Name	Start Month	End Month	Personnel Involved	Deliverables
1	TAC development	1	34	Moller, James	advertising for members, member list, roles and responsibilities, meeting agendas, sign in sheets and minutes
2	Community Education and Outreach	1	34	Moller, James	press releases, new articles, photo documentation, field tours/demonstrations, community meetings minutes and reports
3	landowner agreements on selected sites	2	8	Garbutt, Phil	signed landowner agreements
4	permits	4	20	Harris, Michael	obtaining and completing any needed permits to complete proposed projects
5	pre project monitring	6	12	Garbutt, Phil	photo documentation at project location, and any water quality improvement a Mobil Irrigation lab study will be completed.
6	implementation	12	30	Moller, James	project completion notification from the NRCS and receipts from the landowner for completing the project work
7	post project monitoring	24	34	Garbutt, Phil	photo documentation at project location, any previous Mobil Irrigation lab studies



					require a follow up to calculate exact change in productivity
	draft and 8 final project report	32	34	Ribinsky, John	<p>Draft Project Report that comprises the results of the work listed above. The report shall include the following sections: a. A brief introduction section including a statement of purpose, the scope of the Project, and a description of the approach and techniques used during the project. b. A list of items for review previously submitted as outlined in the Table of Items for Review. c. Any additional information that is deemed appropriate by the Project Director and the Grant Manager.</p> <p>Submit a copy of the Draft Project Report to the TAC(s) and Grant Manager for review and comment.</p>
	9 final grant report	34	36	Schroeder, Mary	preparing a final project report that addresses, to the extent feasible, comments made by the Grant Manager on the Draft Project Report.



					Submit one (1) reproducible master and two (2) copies of the Final Project Report to the Grant Manager for review and acceptance.
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Note: This budget summary **automatically links** to the costs and totals on the "**Budget Detail**" worksheet.  
**DO NOT CHANGE FORMULAS OR ENTER NUMBERS INTO ANY CELLS EXCEPT THE SHADED CELLS** for "Cost Share" and "Other Matching Funds".

<b>BUDGET SUMMARY</b>	<b>Total Amount for Year 1</b>	<b>Total Amount for Year 2</b>	<b>Total Amount for Year 3</b>	<b>Total Amount for All Years</b>
<b>Total Costs for Task One</b>	\$ 4,337.20	\$ 3,845.53	\$ 3,890.49	\$ 12,073.22
<b>Total Costs for Task Two</b>	\$ 7,292.61	\$ 7,545.17	\$ 7,805.15	\$ 22,642.93
<b>Total Costs for Task Three</b>	\$ 2,887.65	\$ 1,441.00	\$ -	\$ 4,328.65
<b>Total Costs for Task Four</b>	\$ 22,655.00	\$ 15,311.75	\$ -	\$ 37,966.75
<b>Total Costs for Task Five</b>	\$ 15,462.35	\$ 14,450.96	\$ 3,694.95	\$ 33,608.25
<b>Total Costs for Task Six</b>	\$ 89,319.58	\$ 92,436.85	\$ 110,134.31	\$ 291,890.75
<b>Total Costs for Task Seven</b>	\$ -	\$ 14,450.96	\$ 20,195.90	\$ 34,646.85
<b>Total Costs for Task Eight</b>	\$ 1,819.76	\$ 1,875.70	\$ 6,062.62	\$ 9,758.07
<b>Total Costs for Task Nine</b>	\$ -	\$ -	\$ 9,513.43	\$ 9,513.43
<b>Total Costs for Task Ten</b>	\$ -	\$ -	\$ -	\$ -
<b>Total Costs for Task Eleven</b>	\$ -	\$ -	\$ -	\$ -
<b>Total Costs for Task Twelve</b>	\$ -	\$ -	\$ -	\$ -
<b>Total Costs for Task Thirteen</b>	\$ -	\$ -	\$ -	\$ -
<b>Total Costs for Task Fourteen</b>	\$ -	\$ -	\$ -	\$ -
<b>Total Costs for Task Fifteen</b>	\$ -	\$ -	\$ -	\$ -
<b>Total Costs for Project Tasks</b>	\$ 143,774.15	\$ 151,357.92	\$ 161,296.85	\$ 456,428.91
<b>1/Cost Share</b>	\$ 107,165.00	\$ 107,165.00	\$ 107,166.00	\$ 321,496.00
<b>2/ Other Matching Funds</b>	\$ -	\$ -	\$ -	\$ -

1/ *Cost share funds* are specifically dedicated to your project and can include private and other State and Federal grants. Any funds listed in this line must be further described in the text of your proposal (see Chapter 3, Section D, of the PSP document)

2/ *Other matching funds* include other funds invested consistent with your project in your project area for which the ERP grant applicant is not eligible. Any funds listed in this line must be further described in the text of your proposal (see Chapter 3, Section D, of the PSP document)

updated 12/1/05



1/ Indicate your rate, and change formula in column immediately to the right of this cell
2/ Travel expenses and per diem must be at rates specified by the Department of Personnel Administration. The contractor is required to maintain travel receipts and records for auditing purposes. No travel out of the state of California shall be reimbursed unless prior written authorization is obtained from the State.
3/ Please provide a list and cost of major equipment (\$5,000 or more) to be purchased, and complete "Equipment Detail" Worksheet
4/ Please list each subcontractor and amounts (if subcontractor not selected yet, use function like "ditch construction subcontractor")
5/ Indicate rate in column immediately to the right of this cell; and provide a description of what expenses are covered by overhead. If overhead is > 15% must provide justification



**Detailed Budget Breakdown by Task and by Fiscal Year**

BUDGET FOR TASK TWO	TOTAL AMOUNT TASK 2 All Years	Year 1			Year 2			Year 3		
		Amount per hour	Number of Hours	Total Amount for Year 1	Amount per hour	Number of Hours	Total Amount for Year 2	Amount per hour	Number of Hours	Total Amount for Year 3
<b>Personnel</b>										
Project Manager	\$ 2,795.70	\$ 30.00	30	\$ 900.00	\$ 31.05	30	\$ 931.50	\$ 32.14	30	\$ 964.20
Watershed Coordinator	\$ 8,076.64	\$ 25.00	104	\$ 2,600.00	\$ 25.88	104	\$ 2,691.52	\$ 26.78	104	\$ 2,785.12
Secretary	\$ 1,180.40	\$ 19.00	20	\$ 380.00	\$ 19.67	20	\$ 393.40	\$ 20.35	20	\$ 407.00
	\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -
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<b>Personnel Subtotal</b>	<b>\$ 12,052.74</b>			<b>\$ 3,880.00</b>			<b>\$ 4,016.42</b>			<b>\$ 4,156.32</b>
1/ Benefits as percent of salary	28%			\$1,086.40			\$1,124.60			\$1,163.77
<b>Personnel Total (salary + benefits)</b>	<b>\$15,427.51</b>			<b>\$4,966.40</b>			<b>\$5,141.02</b>			<b>\$5,320.09</b>
<b>Other Costs</b>	<b>Total All Years</b>			<b>Total Year 1</b>			<b>Total Year 2</b>			<b>Total Year 3</b>
Operating Expenses: (ex: seed, plant materials, irrigation supplies, software, office supplies, etc)	\$ 3,106.00			\$ 1,000.00			\$ 1,035.00			\$ 1,071.00
2/ Travel and Per Diem	\$ 225.00			\$ 75.00			\$ 75.00			\$ 75.00
3/ Equipment	\$ -			\$ -			\$ -			\$ -
4/ Sub-Contractor mobil irrigation lab	\$ 931.00			\$ 300.00			\$ 310.00			\$ 321.00
4/ Sub-Contractor	\$ -			\$ -			\$ -			\$ -
4/ Sub-Contractor	\$ -			\$ -			\$ -			\$ -
4/ Sub-Contractor	\$ -			\$ -			\$ -			\$ -
4/ Sub-Contractor	\$ -			\$ -			\$ -			\$ -
<b>Other Costs Subtotal</b>	<b>\$ 4,262.00</b>			<b>\$ 1,375.00</b>			<b>\$ 1,420.00</b>			<b>\$ 1,467.00</b>
5/ Overhead Percentage (Applied to Personnel & Other Costs)	15%			\$ 951.21			\$ 984.15			\$ 1,018.06
<b>Total Costs for Task Two</b>	<b>\$ 22,642.93</b>			<b>\$ 7,292.61</b>			<b>\$ 7,545.17</b>			<b>\$ 7,805.15</b>

1/ Indicate your rate, and change formula in column immediately to the right of this cell

2/ Travel expenses and per diem must be at rates specified by the Department of Personnel Administration. The contractor is required to maintain travel receipts and records for auditing purposes. No travel out of the state of California shall be reimbursed unless prior written authorization is obtained from the State.

3/ Please provide a list and cost of major equipment (\$5,000 or more) to be purchased, and complete "Equipment Detail" Worksheet

4/ Please list each subcontractor and amounts (if subcontractor not selected yet, use function like "ditch construction subcontractor")

5/ Indicate rate in column immediately to the right of this cell; and provide a description of what expenses are covered by overhead. If overhead is > 15% must provide justification

BUDGET FOR TASK THREE	TOTAL AMOUNT TASK 3 All Years	Year 1			Year 2			Year 3		
		Amount per hour	Number of Hours	Total Amount for Year 1	Amount per hour	Number of Hours	Total Amount for Year 2	Amount per hour	Number of Hours	Total Amount for Year 3
<b>Personnel</b>										
Watershed Coordinator	\$ 1,821.12	\$ 25.00	48	\$ 1,200.00	\$ 25.88	24	\$ 621.12	\$ -		\$ -
Projects Coordinator 1	\$ 883.80	\$ 25.00	25	\$ 625.00	\$ 25.88	10	\$ 258.80	\$ -		\$ -
	\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -



Applicant Name

[illegible]



Proposal Number  
Proposal Name

### Detailed Budget Breakdown by Task and by Fiscal Year

Applicant Name

	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Personnel Subtotal</b>	<b>\$ 24,998.10</b>		<b>\$ 15,000.00</b>		<b>\$ 9,998.10</b>		<b>\$ -</b>
<sup>1/</sup> Benefits as percent of salary	28%		\$4,200.00		\$2,799.47		\$0.00
<b>Personnel Total (salary + benefits)</b>	<b>\$31,997.57</b>		<b>\$19,200.00</b>		<b>\$12,797.57</b>		<b>\$0.00</b>
<b>Other Costs</b>	<b>Total All Years</b>		<b>Total Year 1</b>		<b>Total Year 2</b>		<b>Total Year 3</b>
Operating Expenses: (ex: seed, plant materials, irrigation supplies, software, office supplies, etc)	\$ 1,017.00		\$ 500.00		\$ 517.00		\$ -
<sup>2/</sup> Travel and Per Diem	\$ -		\$ -		\$ -		\$ -
<sup>3/</sup> Equipment	\$ -		\$ -		\$ -		\$ -
<sup>4/</sup> Sub-Contractor / Mobil irrigation lab	\$ -		\$ -		\$ -		\$ -
<sup>4/</sup> Sub-Contractor	\$ -		\$ -		\$ -		\$ -
<sup>4/</sup> Sub-Contractor	\$ -		\$ -		\$ -		\$ -
<sup>4/</sup> Sub-Contractor	\$ -		\$ -		\$ -		\$ -
<sup>4/</sup> Sub-Contractor	\$ -		\$ -		\$ -		\$ -
<b>Other Costs Subtotal</b>	<b>\$ 1,017.00</b>		<b>\$ 500.00</b>		<b>\$ 517.00</b>		<b>\$ -</b>
<sup>5/</sup> Overhead Percentage (Applied to Personnel & Other Costs)	15%		\$ 2,955.00		\$ 1,997.19		\$ -
<b>Total Costs for Task Four</b>	<b>\$ 37,966.75</b>		<b>\$ 22,655.00</b>		<b>\$ 15,311.75</b>		<b>\$ -</b>

1/ Indicate your rate, and change formula in column immediately to the right of this cell

2/ Travel expenses and per diem must be at rates specified by the Department of Personnel Administration. The contractor is required to maintain travel receipts and records for auditing purposes. No travel out of the state of California shall be reimbursed unless prior written authorization is obtained from the State.

3/ Please provide a list and cost of major equipment (\$5,000 or more) to be purchased, and complete "Equipment Detail" Worksheet

4/ Please list each subcontractor and amounts (if subcontractor not selected yet, use function like "ditch construction subcontractor")

5/ Indicate rate in column immediately to the right of this cell; and provide a description of what expenses are covered by overhead. If overhead is > 15% must provide justification

BUDGET FOR TASK FIVE	TOTAL AMOUNT TASK 5 All Years	Year 1			Year 2			Year 3		
		Amount per hour	Number of Hours	Total Amount for Year 1	Amount per hour	Number of Hours	Total Amount for Year 2	Amount per hour	Number of Hours	Total Amount for Year 3
Personnel										
Project Manager 1	\$ 10,550.40	\$ 27.00	192	\$ 5,184.00	\$ 27.95	192	\$ 5,366.40	\$ -		\$ -
Watershed Coordinator	\$ 3,035.20	\$ 25.00	80	\$ 2,000.00	\$ 25.88	40	\$ 1,035.20	\$ -		\$ -
	\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -
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Personnel Subtotal	\$ 13,585.60			\$ 7,184.00			\$ 6,401.60			\$ -
<sup>1/</sup> Benefits as percent of salary	28%			\$2,011.52			\$1,792.45			\$0.00
Personnel Total (salary + benefits)	\$17,389.57			\$9,195.52			\$8,194.05			\$0.00



Proposal Number  
Proposal Name

### Detailed Budget Breakdown by Task and by Fiscal Year

Applicant Name

<b>Other Costs</b>	<b>Total All Years</b>			<b>Total Year 1</b>			<b>Total Year 2</b>			<b>Total Year 3</b>
Operating Expenses: (ex: seed, plant materials, irrigation supplies, software, office supplies, etc)	\$ 1,017.00			\$ 500.00			\$ 517.00			
<sup>2/</sup> Travel and Per Diem	\$ 1,500.00			\$ 750.00			\$ 750.00			\$ -
<sup>3/</sup> Equipment	\$ -			\$ -			\$ -			\$ -
<sup>4/</sup> Sub-Contractor / mobil irrigation lab	\$ 9,318.00			\$ 3,000.00			\$ 3,105.00			\$ 3,213.00
<sup>4/</sup> Sub-Contractor	\$ -			\$ -			\$ -			\$ -
<sup>4/</sup> Sub-Contractor	\$ -			\$ -			\$ -			\$ -
<sup>4/</sup> Sub-Contractor	\$ -			\$ -			\$ -			\$ -
<sup>4/</sup> Sub-Contractor	\$ -			\$ -			\$ -			\$ -
<b>Other Costs Subtotal</b>	<b>\$ 11,835.00</b>			<b>\$ 4,250.00</b>			<b>\$ 4,372.00</b>			<b>\$ 3,213.00</b>
<sup>5/</sup> Overhead Percentage (Applied to Personnel & Other Costs)	15%			\$ 2,016.83			\$ 1,884.91			\$ 481.95
<b>Total Costs for Task Five</b>	<b>\$ 33,608.25</b>			<b>\$ 15,462.35</b>			<b>\$ 14,450.96</b>			<b>\$ 3,694.95</b>

1/ Indicate your rate, and change formula in column immediately to the right of this cell

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3/ Please provide a list and cost of major equipment (\$5,000 or more) to be purchased, and complete "Equipment Detail" Worksheet

4/ Please list each subcontractor and amounts (if subcontractor not selected yet, use function like "ditch construction subcontractor")

5/ Indicate rate in column immediately to the right of this cell; and provide a description of what expenses are covered by overhead. If overhead is > 15% must provide justification

BUDGET FOR TASK SIX	TOTAL AMOUNT TASK 6 All Years	Year 1			Year 2			Year 3		
		Amount per hour	Number of Hours	Total Amount for Year 1	Amount per hour	Number of Hours	Total Amount for Year 2	Amount per hour	Number of Hours	Total Amount for Year 3
Personnel										
District Manager	\$ 1,988.00	\$ 32.00	20	\$ 640.00	\$ 33.12	20	\$ 662.40	\$ 34.28	20	\$ 685.60
Project Manager 1	\$ 12,580.50	\$ 27.00	150	\$ 4,050.00	\$ 27.95	150	\$ 4,192.50	\$ 28.92	150	\$ 4,338.00
Project Manager 2	\$ 8,387.00	\$ 27.00	100	\$ 2,700.00	\$ 27.95	100	\$ 2,795.00	\$ 28.92	100	\$ 2,892.00
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Personnel Subtotal	\$ 22,955.50			\$ 7,390.00			\$ 7,649.90			\$ 7,915.60
<sup>1/</sup> Benefits as percent of salary	28%			\$2,069.20			\$2,141.97			\$2,216.37
Personnel Total (salary + benefits)	\$29,383.04			\$9,459.20			\$9,791.87			\$10,131.97
Other Costs	Total All Years			Total Year 1			Total Year 2			Total Year 3
Operating Expenses: (ex: seed, plant materials, irrigation supplies, software, office supplies, etc)										
	\$ 223,685.00			\$ 67,960.00			\$ 70,338.00			\$ 85,387.00
	\$ 750.00			\$ 250.00			\$ 250.00			\$ 250.00
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Proposal Number  
Proposal Name

### Detailed Budget Breakdown by Task and by Fiscal Year

Applicant Name

<sup>4/</sup> Sub-Contractor	\$ -			\$ -			\$ -			\$ -
<sup>4/</sup> Sub-Contractor	\$ -			\$ -			\$ -			\$ -
<sup>4/</sup> Sub-Contractor	\$ -			\$ -			\$ -			\$ -
<sup>4/</sup> Sub-Contractor	\$ -			\$ -			\$ -			\$ -
<b>Other Costs Subtotal</b>	<b>\$ 224,435.00</b>			<b>\$ 68,210.00</b>			<b>\$ 70,588.00</b>			<b>\$ 85,637.00</b>
<sup>5/</sup> Overhead Percentage (Applied to Personnel & Other Costs)	15%			\$ 11,650.38			\$ 12,056.98			\$ 14,365.35
<b>Total Costs for Task Six</b>	<b>\$ 291,890.75</b>			<b>\$ 89,319.58</b>			<b>\$ 92,436.85</b>			<b>\$ 110,134.31</b>

1/ Indicate your rate, and change formula in column immediately to the right of this cell

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3/ Please provide a list and cost of major equipment (\$5,000 or more) to be purchased, and complete "Equipment Detail" Worksheet

4/ Please list each subcontractor and amounts (if subcontractor not selected yet, use function like "ditch construction subcontractor")

5/ Indicate rate in column immediately to the right of this cell; and provide a description of what expenses are covered by overhead. If overhead is > 15% must provide justification

BUDGET FOR TASK SEVEN	TOTAL AMOUNT TASK 7 All Years	Year 1			Year 2			Year 3		
		Amount per hour	Number of Hours	Total Amount for Year 1	Amount per hour	Number of Hours	Total Amount for Year 2	Amount per hour	Number of Hours	Total Amount for Year 3
Personnel										
Project Manager 1	\$ 10,919.04	\$ -		\$ -	\$ 27.95	192	\$ 5,366.40	\$ 28.92	192	\$ 5,552.64
Watershed Coordinator	\$ 3,177.60	\$ -		\$ -	\$ 25.88	40	\$ 1,035.20	\$ 26.78	80	\$ 2,142.40
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Personnel Subtotal	\$ 14,096.64	\$ -		\$ -	\$ -		\$ 6,401.60	\$ -		\$ 7,695.04
<sup>1/</sup> Benefits as percent of salary	28%			\$0.00			\$1,792.45			\$2,154.61
Personnel Total (salary + benefits)	\$18,043.70			\$0.00			\$8,194.05			\$9,849.65
Other Costs	Total All Years			Total Year 1			Total Year 2			Total Year 3
Operating Expenses: (ex: seed, plant materials, irrigation supplies, software, office supplies, etc) <sup>2/</sup> Travel and Per Diem <sup>3/</sup> Equipment <sup>4/</sup> Sub-Contractor / mobil irrigation lab <sup>4/</sup> Sub-Contractor <sup>4/</sup> Sub-Contractor <sup>4/</sup> Sub-Contractor <sup>4/</sup> Sub-Contractor										
	\$ 1,052.00			\$ -			\$ 517.00			\$ 535.00
	\$ 1,500.00			\$ -			\$ 750.00			\$ 750.00
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	\$ 9,532.00			\$ -			\$ 3,105.00			\$ 6,427.00
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Other Costs Subtotal	\$ 12,084.00			\$ -			\$ 4,372.00			\$ 7,712.00



Proposal Number  
Proposal Name

### Detailed Budget Breakdown by Task and by Fiscal Year

Applicant Name

<sup>5/</sup> Overhead Percentage (Applied to Personnel & Other Costs)	15%			\$ -			\$ 1,884.91			\$ 2,634.25
<b>Total Costs for Task Seven</b>	<b>\$ 34,646.85</b>			<b>\$ -</b>			<b>\$ 14,450.96</b>			<b>\$ 20,195.90</b>

1/ Indicate your rate, and change formula in column immediately to the right of this cell

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3/ Please provide a list and cost of major equipment (\$5,000 or more) to be purchased, and complete "Equipment Detail" Worksheet

4/ Please list each subcontractor and amounts (if subcontractor not selected yet, use function like "ditch construction subcontractor")

5/ Indicate rate in column immediately to the right of this cell; and provide a description of what expenses are covered by overhead. If overhead is > 15% must provide justification

BUDGET FOR TASK EIGHT	TOTAL AMOUNT TASK 8 All Years	Year 1			Year 2			Year 3		
		Amount per hour	Number of Hours	Total Amount for Year 1	Amount per hour	Number of Hours	Total Amount for Year 2	Amount per hour	Number of Hours	Total Amount for Year 3
Personnel										
Project Manager	\$ 2,571.20	\$ -		\$ -	\$ -		\$ -	\$ 32.14	80	\$ 2,571.20
Project Manager 1	\$ 3,354.80	\$ 27.00	40	\$ 1,080.00	\$ 27.95	40	\$ 1,118.00	\$ 28.92	40	\$ 1,156.80
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Personnel Subtotal	\$ 5,926.00			\$ 1,080.00			\$ 1,118.00			\$ 3,728.00
<sup>1/</sup> Benefits as percent of salary	28%			\$302.40			\$313.04			\$1,043.84
Personnel Total (salary + benefits)	\$7,585.28			\$1,382.40			\$1,431.04			\$4,771.84
Other Costs	Total All Years			Total Year 1			Total Year 2			Total Year 3
Operating Expenses: (ex: seed, plant materials, irrigation supplies, software, office supplies, etc) <sup>2/</sup> Travel and Per Diem <sup>3/</sup> Equipment <sup>4/</sup> Sub-Contractor <sup>4/</sup> Sub-Contractor <sup>4/</sup> Sub-Contractor <sup>4/</sup> Sub-Contractor <sup>4/</sup> Sub-Contractor	\$ 900.00			\$ 200.00			\$ 200.00			\$ 500.00
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Other Costs Subtotal	\$ 900.00			\$ 200.00			\$ 200.00			\$ 500.00
<sup>5/</sup> Overhead Percentage (Applied to Personnel & Other Costs)	15%			\$ 237.36			\$ 244.66			\$ 790.78
Total Costs for Task Eight	\$ 9,758.07			\$ 1,819.76			\$ 1,875.70			\$ 6,062.62

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Applicant Name

[illegible]



Proposal Number  
Proposal Name

### Detailed Budget Breakdown by Task and by Fiscal Year

Applicant Name

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<b>Personnel Subtotal</b>	\$ -		\$ -		\$ -		\$ -
<sup>1/</sup> Benefits as percent of salary			\$0.00		\$0.00		\$0.00
<b>Personnel Total (salary + benefits)</b>	<b>\$0.00</b>		<b>\$0.00</b>		<b>\$0.00</b>		<b>\$0.00</b>
<b>Other Costs</b>	<b>Total All Years</b>		<b>Total Year 1</b>		<b>Total Year 2</b>		<b>Total Year 3</b>
Operating Expenses: (ex: seed, plant materials, irrigation supplies, software, office supplies, etc)	\$ -		\$ -		\$ -		\$ -
<sup>2/</sup> Travel and Per Diem	\$ -		\$ -		\$ -		\$ -
<sup>3/</sup> Equipment	\$ -		\$ -		\$ -		\$ -
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<sup>4/</sup> Sub-Contractor	\$ -		\$ -		\$ -		\$ -
<b>Other Costs Subtotal</b>	<b>\$ -</b>		<b>\$ -</b>		<b>\$ -</b>		<b>\$ -</b>
<sup>5/</sup> Overhead Percentage (Applied to Personnel & Other Costs)			\$ -		\$ -		\$ -
<b>Total Costs for Task Eleven</b>	<b>\$ -</b>		<b>\$ -</b>		<b>\$ -</b>		<b>\$ -</b>

1/ Indicate your rate, and change formula in column immediately to the right of this cell

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3/ Please provide a list and cost of major equipment (\$5,000 or more) to be purchased, and complete "Equipment Detail" Worksheet

4/ Please list each subcontractor and amounts (if subcontractor not selected yet, use function like "ditch construction subcontractor")

5/ Indicate rate in column immediately to the right of this cell; and provide a description of what expenses are covered by overhead. If overhead is > 15% must provide justification

BUDGET FOR TASK TWELVE	TOTAL AMOUNT TASK 12 All Years	Year 1			Year 2			Year 3		
		Amount per hour	Number of Hours	Total Amount for Year 1	Amount per hour	Number of Hours	Total Amount for Year 2	Amount per hour	Number of Hours	Total Amount for Year 3
Personnel										
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Personnel Subtotal	\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -
<sup>1/</sup> Benefits as percent of salary				\$0.00			\$0.00			\$0.00



Proposal Number  
Proposal Name

**Detailed Budget Breakdown by Task and by Fiscal Year**

Applicant Name

<b>Personnel Total (salary + benefits)</b>	<b>\$0.00</b>			<b>\$0.00</b>			<b>\$0.00</b>			<b>\$0.00</b>
<b>Other Costs</b>	<b>Total All Years</b>			<b>Total Year 1</b>			<b>Total Year 2</b>			<b>Total Year 3</b>
Operating Expenses: (ex: seed, plant materials, irrigation supplies, software, office supplies, etc)	\$ -			\$ -			\$ -			\$ -
<sup>2/</sup> Travel and Per Diem	\$ -			\$ -			\$ -			\$ -
<sup>3/</sup> Equipment	\$ -			\$ -			\$ -			\$ -
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<sup>4/</sup> Sub-Contractor	\$ -			\$ -			\$ -			\$ -
<b>Other Costs Subtotal</b>	<b>\$ -</b>			<b>\$ -</b>			<b>\$ -</b>			<b>\$ -</b>
<sup>5/</sup> Overhead Percentage (Applied to Personnel & Other Costs)				\$ -			\$ -			\$ -
<b>Total Costs for Task Twelve</b>	<b>\$ -</b>			<b>\$ -</b>			<b>\$ -</b>			<b>\$ -</b>

1/ Indicate your rate, and change formula in column immediately to the right of this cell

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3/ Please provide a list and cost of major equipment (\$5,000 or more) to be purchased, and complete "Equipment Detail" Worksheet

4/ Please list each subcontractor and amounts (if subcontractor not selected yet, use function like "ditch construction subcontractor")

5/ Indicate rate in column immediately to the right of this cell; and provide a description of what expenses are covered by overhead. If overhead is > 15% must provide justification

BUDGET FOR TASK THIRTEEN	TOTAL AMOUNT TASK 13 All Years	Year 1			Year 2			Year 3		
		Amount per hour	Number of Hours	Total Amount for Year 1	Amount per hour	Number of Hours	Total Amount for Year 2	Amount per hour	Number of Hours	Total Amount for Year 3
Personnel										
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Applicant Name

[illegible][illegible]



Proposal Number  
Proposal Name

**Detailed Budget Breakdown by Task and by Fiscal Year**

Applicant Name

Other Costs Subtotal	\$ -			\$ -			\$ -			\$ -
<sup>5/</sup> Overhead Percentage (Applied to Personnel & Other Costs)				\$ -			\$ -			\$ -
Total Costs for Task Fourteen	\$ -			\$ -			\$ -			\$ -
1/ Indicate your rate, and change formula in column immediately to the right of this cell										
2/ Travel expenses and per diem must be at rates specified by the Department of Personnel Administration. The contractor is required to maintain travel receipts and records for auditing purposes. No travel out of the state of California shall be reimbursed unless prior written authorization is obtained from the State.										
3/ Please provide a list and cost of major equipment (\$5,000 or more) to be purchased, and complete "Equipment Detail" Worksheet										
4/ Please list each subcontractor and amounts (if subcontractor not selected yet, use function like "ditch construction subcontractor")										
5/ Indicate rate in column immediately to the right of this cell; and provide a description of what expenses are covered by overhead. If overhead is > 15% must provide justification										
		Year 1			Year 2			Year 3		
BUDGET FOR TASK FIFTEEN	TOTAL AMOUNT TASK 15 All Years	Amount per hour	Number of Hours	Total Amount for Year 1	Amount per hour	Number of Hours	Total Amount for Year 2	Amount per hour	Number of Hours	Total Amount for Year 3
Personnel										
	\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -
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Personnel Subtotal	\$ -			\$ -			\$ -			\$ -
<sup>1/</sup> Benefits as percent of salary				\$0.00			\$0.00			\$0.00
Personnel Total (salary + benefits)	\$0.00			\$0.00			\$0.00			\$0.00
Other Costs	Total All Years			Total Year 1			Total Year 2			Total Year 3
Operating Expenses: (ex: seed, plant materials, irrigation supplies, software, office supplies, etc)	\$ -			\$ -			\$ -			\$ -
<sup>2/</sup> Travel and Per Diem	\$ -			\$ -			\$ -			\$ -
<sup>3/</sup> Equipment	\$ -			\$ -			\$ -			\$ -
<sup>4/</sup> Sub-Contractor	\$ -			\$ -			\$ -			\$ -
<sup>4/</sup> Sub-Contractor	\$ -			\$ -			\$ -			\$ -
<sup>4/</sup> Sub-Contractor	\$ -			\$ -			\$ -			\$ -
<sup>4/</sup> Sub-Contractor	\$ -			\$ -			\$ -			\$ -
<sup>4/</sup> Sub-Contractor	\$ -			\$ -			\$ -			\$ -
Other Costs Subtotal	\$ -			\$ -			\$ -			\$ -
<sup>5/</sup> Overhead Percentage (Applied to Personnel & Other Costs)				\$ -			\$ -			\$ -
Total Costs for Task Fifteen	\$ -			\$ -			\$ -			\$ -



Proposal Number  
Proposal Name

**Detailed Budget Breakdown by Task and by Fiscal Year**

Applicant Name

1/ Indicate your rate, and change formula in column immediately to the right of this cell
2/ Travel expenses and per diem must be at rates specified by the Department of Personnel Administration. The contractor is required to maintain travel receipts and records for auditing purposes. No travel out of the state of California shall be reimbursed unless prior written authorization is obtained from the State.
3/ Please provide a list and cost of major equipment (\$5,000 or more) to be purchased, and complete "Equipment Detail" Worksheet
4/ Please list each subcontractor and amounts (if subcontractor not selected yet, use function like "ditch construction subcontractor")
5/ Indicate rate in column immediately to the right of this cell; and provide a description of what expenses are covered by overhead. If overhead is > 15% must provide justification



# Environmental Compliance

## CEQA Compliance

Which type of CEQA documentation do you anticipate?

- none *Skip the remaining questions in this section.*
- negative declaration or mitigated negative declaration
- EIR

**X** categorical exemption *A categorical exemption may not be used for a project which may which may cause a substantial adverse change in the significance of a historical resource or result in damage to scenic resources within an officially designated state scenic highway.*

If you are using a categorical exemption, choose all of the applicable classes below.

- Class 1. Operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination. The types of "existing facilities" itemized above are not intended to be all-inclusive of the types of projects which might fall within Class 1. The key consideration is whether the project involves negligible or no expansion of an existing use.

- Class 2. Replacement or reconstruction of existing structures and facilities where the new structure will be located on the same site as the structure replaced and will have substantially the same purpose and capacity as the structure replaced.

- Class 3. Construction and location of limited numbers of new, small facilities or structures; installation of small new equipment and facilities in small structures; and the conversion of existing small structures from one use to another where only minor modifications are made in the exterior of the structure. The numbers of structures described in this section are the maximum allowable on any legal parcel, except where the project may impact on an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies.

**X** Class 4. Minor public or private alterations in the condition of land, water, and/or vegetation which do not involve removal of healthy, mature, scenic trees except for forestry or agricultural purposes, except where the project may impact on an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies.



– Class 6. Basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource, except where the project may impact on an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies. These may be strictly for information gathering purposes, or as part of a study leading to an action which a public agency has not yet approved, adopted, or funded.

– Class 11. Construction, or placement of minor structures accessory to (appurtenant to) existing commercial, industrial, or institutional facilities, except where the project may impact on an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies.

Identify the lead agency.

**Western Shasta Resource Conservation District**

*Please write out all words in the agency title other than United States (Use the abbreviation "US".) and California (Use the abbreviation "CA".).*

Is the CEQA environmental impact assessment complete?

**No.**

If the CEQA environmental impact assessment process is complete, provide the following information about the resulting document.

**Document Name**

**State Clearinghouse Number**

If the CEQA environmental impact assessment process is not complete, describe the plan for completing draft and/or final CEQA documents.

**Each of these 22 projects will be looked at individually and most qualify for a CEQA categorical exemption**

## **NEPA Compliance**

Which type of NEPA documentation do you anticipate?

– none *Skip the remaining questions in this section.*

– environmental assessment/FONSI

– EIS

**X** categorical exclusion



Identify the lead agency or agencies.

**Natural Resource Conservation Service**

*Please write out all words in the agency title other than United States (Use the abbreviation "US".) and California (Use the abbreviation "CA".).*

If the NEPA environmental impact assessment process is complete, provide the name of the resulting document.

If the NEPA environmental impact assessment process is not complete, describe the plan for completing draft and/or final NEPA documents.

**Natural Resources Conservation Service will complete all of the NEPA documentation most of which will be categorical exclusions**

Successful applicants must tier their project's permitting from the CALFED Record of Decision and attachments providing programmatic guidance on complying with the state and federal endangered species acts, the Coastal Zone Management Act, and sections 404 and 401 of the Clean Water Act.

Please indicate what permits or other approvals may be required for the activities contained in your proposal and also which have already been obtained. Please check all that apply. If a permit is *not* required, leave both Required? and Obtained? check boxes blank.

<b>Local Permits And Approvals</b>	<b>Required?</b>	<b>Obtained?</b>	<b>Permit Number (If Applicable)</b>
<b>conditional Use Permit</b>	-	-	
<b>variance</b>	-	-	
<b>Subdivision Map Act</b>	-	-	
<b>grading Permit</b>	X	-	
<b>general Plan Amendment</b>	-	-	
<b>specific Plan Approval</b>	-	-	
<b>rezone</b>	-	-	



<b>Williamson Act Contract Cancellation</b>	-	-	
<b>other</b>	-	-	

<b>State Permits And Approvals</b>	<b>Required?</b>	<b>Obtained?</b>	<b>Permit Number (If Applicable)</b>
<b>scientific Collecting Permit</b>	-	-	
<b>CESA Compliance: 2081</b>	X	-	
<b>CESA Compliance: NCCP</b>	-	-	
<b>Lake Or Streambed Alteration Agreement</b>	X	-	
<b>CWA 401 Certification</b>	X	-	
<b>Bay Conservation And Development Commission Permit</b>	-	-	
<b>reclamation Board Approval</b>	-	-	
<b>Delta Protection Commission Notification</b>	-	-	
<b>state Lands Commission Lease Or Permit</b>	X	-	
<b>action Specific Implementation Plan</b>	-	-	
<b>SWRCB Water Transfer Approval</b>	-	-	
<b>other</b>	-	-	

<b>Federal Permits And Approvals</b>	<b>Required?</b>	<b>Obtained?</b>	<b>Permit Number (If Applicable)</b>
<b>ESA Compliance Section 7 Consultation</b>	-	-	
<b>ESA Compliance Section 10 Permit</b>	-	-	
<b>Rivers And Harbors Act</b>	-	-	
<b>CWA 404</b>	X	-	
<b>other</b>	-	-	

<b>Permission To Access Property</b>	<b>Required?</b>	<b>Obtained?</b>	<b>Permit Number (If Applicable)</b>
<b>permission To Access City, County Or Other Local Agency Land Agency Name</b>	-	-	



<b>permission To Access State Land Agency Name</b>	-	-	
<b>permission To Access Federal Land Agency Name</b>	-	-	
<b>permission To Access Private Land Landowner Name</b>	-	-	

If you have comments about any of these questions, enter them here.



# Land Use

Does the project involve land acquisition, either in fee or through easements?

**X** No. *Skip to the next set of questions.*

– Yes. *Answer the following questions.*

How many acres will be acquired by fee?

How many acres will be acquired by easement?

Describe the entity or organization that will manage the property and project activities, including operation and maintenance.

Is there an existing plan describing how the land and water will be managed?

– No.

**X** Yes. *Cite the title and author or describe briefly.* **Each landowner has an approved ranch management plan filed with NRCS**

Will the applicant require access across to or through public or private property that the applicant does not own to accomplish the activities in the proposal?

– No. *Skip to the next set of questions.*

**X** Yes. *Answer the following question.*

Describe briefly the provisions made to secure this access.

**landowner on the projects are identified and have all ready been contacted and the supporting documentation is attached.**

Do the actions in the proposal involve physical changes in the current land use?

**X** No. *Skip to the next set of questions.*

– Yes. *Answer the following questions.*

Describe the current zoning, including the zoning designation and the principal permitted uses permitted in the zone.

Describe the general plan land use element designation, including the purpose and uses allowed in the designation.

Describe relevant provisions in other general plan elements affecting the site, if any.



Is the land mapped as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance under the California Department of Conservation's Farmland Mapping and Monitoring Program?

– No. *Skip to the next set of questions.*

**X** Yes. *Answer the following questions.*

Land Designation	Acres	Currently In Production?
Prime Farmland	3855.78	X
Farmland Of Statewide Importance	1095	X
Unique Farmland	110.29	X
Farmland Of Local Importance	4412.23	X

Is the land affected by the project currently in an agricultural preserve established under the Williamson Act?

– No. *Skip to the next set of questions.*

**X** Yes. *Answer the following question.*

Is the land affected by the project currently under a Williamson Act contract?

– No. *Skip to the next set of questions.*

**X** Yes. *Answer the following question.*

Why is the land use proposed consistent with the contract's terms?

**There are 75,121 acres in the Williamson Act in the Cow Creek Watershed. Most of the projects in this proposal will have the added protection of the Williamson Act**

Describe any additional comments you have about the projects land use.